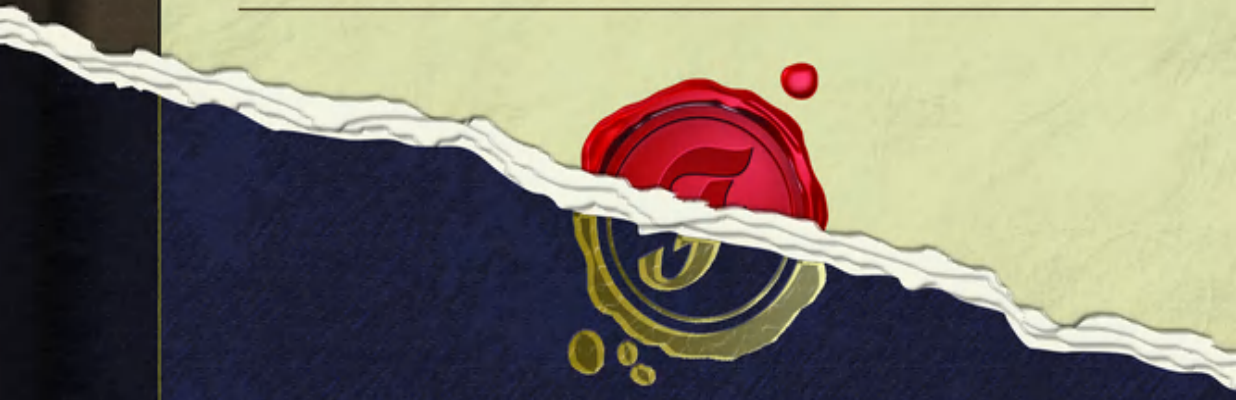
CLASSIC REPRINT SERIES

How to Make a Violin



by
John Broadhouse

Forgotten Books

Forgotten Books

How to Make a Violin

by

John Broadhouse
Violin Notes By Ole Bull

Published by Forgotten Books 2013
Originally published 1900

PIBN 1000070735

www.ForgottenBooks.org

eBook Terms & Conditions

www.forgottenbooks.org

1. This eBook* may be

a. Copied for personal and educational use.

b. Printed for personal and educational use.

2. This eBook* may NOT be

a. Distributed in any form.

b Sold individually or as part of a package.

c. Modified in any way.

d. Reversed-engineered.

FB &c Ltd, Dalton House, 60 Windsor Avenue, London SW19 2RR
Company number 08720141. Registered in England and Wales.

*'eBook' refers to this PDF and any of its content including pages and images in either electronic or printed form.

Alchemy

"In changing the base metals into gold and silver by the projection of the Stone, it follows (by an accelerated process) the method of nature, and therefore is natural."

The New Pearl of Great Price, by Peter Bonus, 1338 AD

HOW TO MAKE A VIOLIN

by

JOHN BROADHOUSE

and

VIOLIN NOTES by OLE BULL

Revised Edition

LONDON
WILLIAM REEVES Bookseller Ltd.
1a Norbury Crescent, S.W.16

Printed in Great Britain by
Lowe and Brydone (Printers) Limited, London, N.W.10

Foreword.

THE demand for this little work on the construction of the violin has continued steadily for years and for a short time has been out of print. This present edition has been considerably improved and has had the advantage of being revised by one of our well-known violin makers. With a view of further improving this edition the outline illustrations of the models of Stradivarius, Guarnerius and Amati have been re-drawn and that of a Maggini added to the list.

CONTENTS

List of Illustrations.

Introduction.

SO much has been written upon the violin, its history, its development, its beauties as a musical instrument, its musical literature, etc., that a collection of all the works to which it has given rise would form almost a library of themselves. Its history has been ably treated in a German work called "Die Violine, Ihre Geschichte und Ihr Bau." The only work, however, as yet given to English readers, I believe, which treats fully and concisely of the numerous details involved in *making* a violin, is the very fine but expensive work of E. Heron-Allen—a work complete in itself, but perhaps too costly for some who would like to try their hand at fabricating

a fiddle. Hints are given in many books, and in some of them a general outline of the process is furnished; the best I have seen is contained in "The Violin," by P. Davidson. By far the greater part of that interesting work is devoted to theoretical and historical matters, which, however, attractive in themselves, are not strictly connected with the making of the instrument. My object in writing this book is to afford the amateur detailed information respecting the various processes to be gone through in the workshop, from the time when the wood in the rough lies on the bench to the moment when the finished article is ready to be fitted with strings for playing. I do not think I have allowed any detail to escape me, if I have I shall be grateful to any reader who will communicate with me, so that the defect or defects may be remedied in a later edition. I do not for a moment suppose that my work is perfect, but I have tried to make it as full and complete as possible, and to explain in detail every operation necessary to construct a violin.

It is presumed that the amateur is sufficiently enthusiastic to make the attempt, and that he means not merely to make a common box of wood which will sound when played upon, but to produce instruments which will live after him, and to put his best work into every violin he finishes. Violins are turned out by the thousand every year, but cheap as they are, most of them are dear at the price paid for them because they are made without artistic intelligence, without enthusiasm, without love for the beautiful, and without that minute attention to each particular instrument which alone can secure a perfect work. So many backs, so many bellies, so many necks, so many finger-boards, so many bass-bars, so many sound-posts, are shaped to a given pattern, fitted together, varnished, and sent into the market as so many violins; but this is not the way to produce one good instrument. The amateur who reads this book doubtless knows all that can be learnt about the old masters whose names are household words in the violin world, and if

so, he knows that *they* did not work on this plan, but bestowed loving care on every single instrument, regarding the one work in hand as quite enough to tax all their energies and absorb all their artistic knowledge and experience for the time being. This is the spirit in which to work, the spirit which will regard every detail as equally momentous, and bestow as much time and trouble on the inside work which will never be seen, as on the outside work which will be seen. I would call the reader's attention to the remark of the eminent sculptor to the effect that "Trifles make perfection," but I would at the same time caution him against misunderstanding the quotation. In the making of a violin there are no "trifles," everything seen or unseen, great or small, beautiful or not beautiful, is of the first importance. The mason who carved elaborate details on figures. in a cathedral, placed so high that the beauty of his work could not be seen and admired, made his work perfect *because the gods would see it*; does the amateur who

is about to begin to make a violin know what such enthusiasm means? Is he prepared to produce a perfect work, not merely to make a profit by it, not to win admiration for it, not to gain celebrity by it, but because the doing of genuine work, for the reason that it is genuine work, is the highest and purest pleasure known to the enthusiast? *This is enthusiasm.* The work will not of necessity be bad if profit or fame result from it, but it will certainly be bad if this particular kind of enthusiasm do not inspire every step taken in the process of doing it.

Few stories have been told oftener than that which tells how Sir Joshua Reynolds informed an inquirer that he mixed his colours *with brains.* That is the one single commodity with which I cannot undertake to supply the amateur violin-maker. No amount of instruction will enable a fool to make a fiddle.

No number of difficulties will prevent a man "with a head screwed on the right way about" from working through failure to success. These instructions are only

meant for people of the latter sort. For them the directions here given will be ample. Theories have been abundantly dealt with by other writers: this work is meant to be practical.

HOW TO MAKE A VIOLIN.

CHAPTER I.

THE PARTS OF THE VIOLIN.

TAKEN to pieces, a violin would be found to consist of the following parts:

*Back	2	Pieces
Belly	2	„
(4 Corners and 1 top and bottom blocks)	6	„
†Sides	6	„
Side Linings	12	„
Bar	1	„
‡Purflings	36	„

* The back is sometimes made in one piece. It is then called "a whole back." The same remark also applies to the belly.

† Bottom side is sometimes one piece only.

‡ The purflings are the narrow black ornamental double lines running round the outer edge of the back and belly. They are sometimes omitted.

Neck	1	Pieces
Finger Board	1	„
Nut	1	„
Bridge	1	„
Tail Piece	1	„
Button for ditto . . .	1	„
String for ditto	1	„
Tail Piece Nut	1	„
Sound Post	1	„
Strings	4	„
Pegs	4	„
	82	

Four kinds of wood are used: maple, pine, ebony and rosewood.

Maple is used for the back, the neck, the side pieces and the bridge.

Pine is used for the belly, the bar, the blocks, the side linings and the sound post.

Ebony is used for the fingerboard, the nut, the tail piece, the tail piece nut and the button.

Rosewood for the pegs.

CHAPTER II.

ON THE SELECTION OF WOOD.

THE maple and pine are the sounding woods of the violin, and the tone of the instrument depends chiefly upon the quality of wood chosen. It is a pity to waste good work on bad wood, and the following points must be carefully observed in selecting both the maple and pine:

(The tree should have been cut in December or January. At that time the sap has ceased to flow, and wood cut down then is always richer in sonorous qualities than that cut at any other time.)

It must have been seasoned for six or seven years before use, more, if possible, but never less. Artificial means have been employed to hasten the effects of seasoning, and make the wood tough, elastic and resonant, but seasoning is the only genuine, be-

cause natural mode of attaining this end, and I advise the amateur to avoid baked wood, or wood dosed with chemicals, as he would the plague. The longer the wood has been seasoned by being kept in a dry and airy place and protected from extremes of heat and cold, the better will it be for violin making.

The wood must be perfectly free from knots, quite sound, not worm eaten, and without flaw of any kind. The grain must be perfectly straight and run lengthwise. The maple must not be too hard or too soft, in the first case the tone will not come freely at the touch of the bow, in the second, it will be dull, muffled and entirely without brilliancy. This, like many other matters in connection with our subject, is a question of judgment and experience. Vuillaume, of Paris, travelled in Italy and Switzerland for the express purpose of procuring pine wood, and bought chairs, tables and other articles of furniture whenever he found the kind of wood he wanted. As it is not possible for every would-be maker to follow his example

I recommend the amateur to buy the wood he requires from a violin-maker of repute. These are to be found in London, Paris, and even at Mirecourt, the French town where so many common violins are made by machinery to order. For good material a high price will be asked, and very valuable pieces of back and belly wood are worth almost their weight in gold. A maker in London once showed me two pieces of maple sawed into shape for a back, which he said he would not sell, even in the rough, for twenty pounds apiece.

It is not of course necessary or desirable that the amateur should make his earliest experiments on costly wood, on the other hand, I recommend him to make his first fiddle of cheap material, so as to familiarise himself with the tools and the way to use them. When this experience has been acquired, it will be soon enough to try to turn valuable wood into an artistic and really excellent violin.

The wood must be cut from the south side of the tree. The old Italian makers took

great care to select wood of this kind, because they found it more sonorous and brilliant in tone. The maple should be free from red or brown patches, that which is of an uniformly whitish tint is the best.

The pine should be white and of perfectly straight grain throughout the length of the instrument. The very finest grain is not so good as that which has an open space between the fibres. The least knot, fault, flaw or curve in the grain will render the piece useless. No other wood but pine is ever used for the belly, though the back has occasionally been made of other woods than maple. Figured wood is advisable if its sonority is not interfered with, as the beautiful and the useful may readily be combined. Some of the backs of Stradivarius combine beauty of appearance and excellence of tone in the highest perfection.

CHAPTER III.

THE TOOLS REQUIRED.

SOME of the tools used in violin making are commonly used by cabinet-makers and carpenters, and others are peculiarly fitted for their special purposes. They may be bought at a good tool shop.

The work-bench or table, need not be larger than 4 ft. by 2 ft. A wooden vice should be attached to one end. The surface should be quite smooth and kept scrupulously clean. The following tools are required:

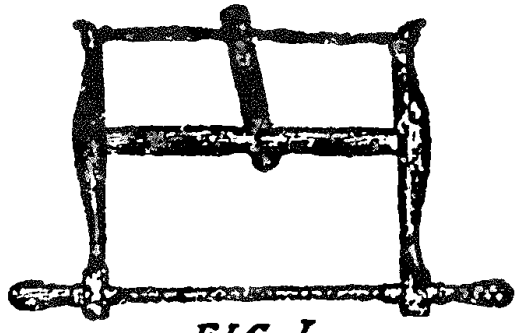


FIG. I

Three saws one of the usual kind for sawing the larger pieces (24 inches of blade will be plenty), a hand saw for the more

delicate work, and a bow saw for outline work.

Three chisels, $\frac{3}{16}$ inch, $\frac{3}{8}$ inch, and 1 inch broad respectively.

Eight gouges, ranging from $\frac{1}{8}$ inch to 1 inch broad, will be necessary.

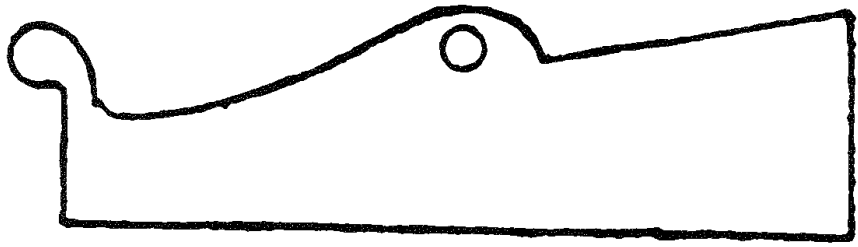


FIG. 2.

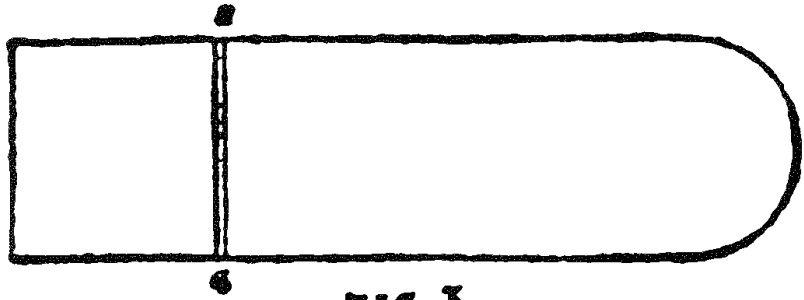


FIG. 3.

A flat-bottomed plane 8 inches long. The illustrations show the kind of plane required. Fig. 2 is the side view of the body;

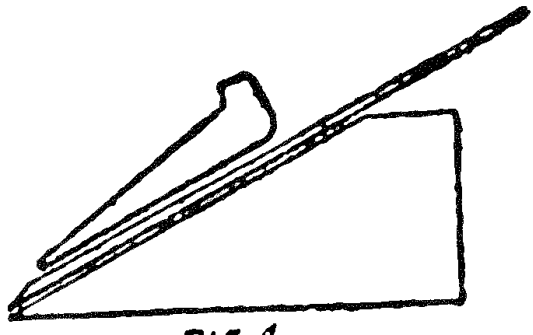


FIG. 4

Fig. 3 is the bottom view, *aa* being the slit for the blade; Fig. 4 shows the loose pieces detached, which, when fixed, keeps the blade in its place; and Fig. 5 shows the plane

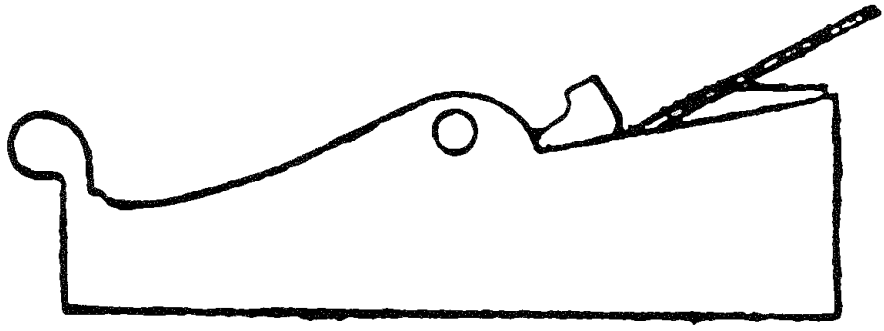


FIG. 5

ready for use. The blade must be kept very sharp, or it will tear the wood instead of taking off a thin clean shaving.

If the maker buys his wood in the tree, and decides to season it himself, he must cut his maple for the *necks* into pieces 12 inches long, $2\frac{1}{4}$ inches deep, and $1\frac{3}{4}$ inches broad, the grain running on the broadest side. Stack the pieces so that the air gets freely to them. The pieces of maple and pine for the back and belly must be 16 inches long, 6 inches broad, but conical in shape, the broader edge being $1\frac{1}{8}$ inches and the narrower $\frac{1}{4}$ inch. Authorities are divided as to whether the heart wood or the outer edge should be joined

in the middle of the instrument. Mauzin, a French author, says: "Il faut avoir soin . . . de mettre la partie du *cœur* de l'arbre c'est-a-dire les veines les plus rapprochés, *dans le centre* de la table." Mr. Davidson, in the work referred to in the introduction, says the "two thickest edges" should be "the *bark side* of the tree," and yet he says later on, after giving directions for planing and joining the thicker edges to make the back and belly: "It will thus be seen that the centre of this joined plate contains the interior or heart wood." If, as he says, the two *thickest* edges are *the bark side*, it is impossible that the centre of the joined plate can contain the *interior or heartwood*.*

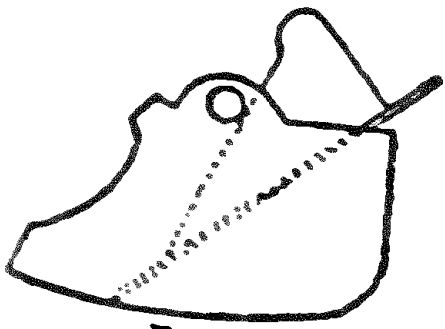


Fig 6

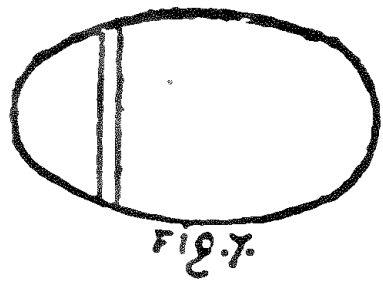


Fig 7.

* As a matter of fact the bark side is in the centre or jointed part of the instrument, this applies to both back and belly.

Three small planes, with rounded bottoms. Figs. 6 and 7 show what these tools are like.

The smallest should be of the size shown; the second half as large again; the largest twice the size of the smallest.

Three or four knives of the shape shown in Fig. 8, with blades ranging from 1 inch to 3 inches in length.

Two or three scrapers, like those used by cabinet-makers, but with rounded edges. The necessity for this difference will be seen later, when the use of the scraper is explained. One scraper will be required with the edge shaped as Fig. 9.

FIG 8.

FIG. 9.

FIG. 10

A pair of steel compasses for measuring the thickness of the back and belly, shaped as in Fig. 10. These must, of course, be large enough to allow the back and belly pieces to be measured with equal facility from any point of the edge.

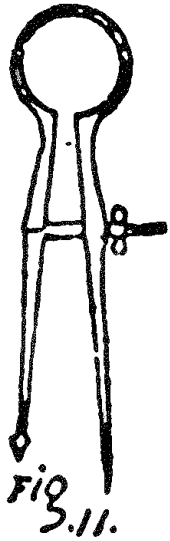


Fig. 11.

Fig. 12.

A steel trace, with one leg shorter than the other, Fig. 11.

A bending iron, for giving shape to the

side pieces and side linings, Fig. 12. The body (B) is of an oval shape (C), Fig. 12, and 6 inches long, the length of the oval being 2 inches and the width 1 inch. The handle (A) should of course be long enough to prevent burning the hand when the body (B) is heated.

A hand-vice, Fig. 13; the opening from A

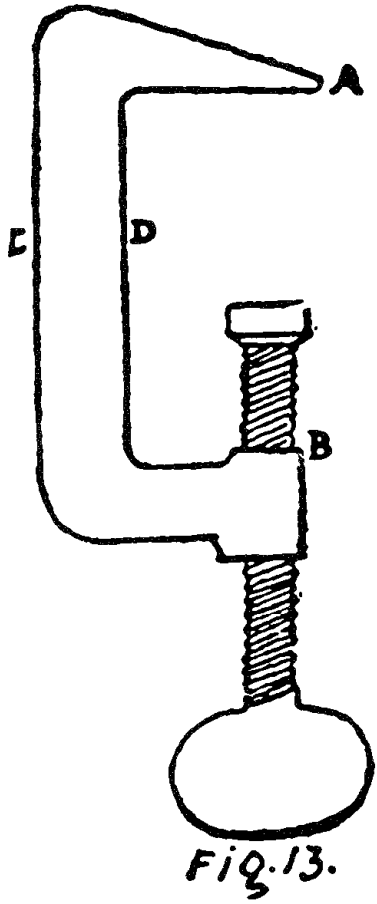


Fig. 13.

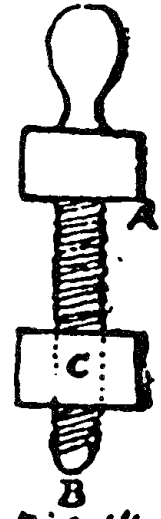


Fig. 14.

to B should be about $3\frac{1}{2}$ inches, and the breadth, C to D, about 1 inch.

Sixteen or eighteen hand-screws, made of wood, of the shape shown in Fig. 14, and

measuring 3 inches from A to B. C should be 1 inch thick. In using these hand-screws, a piece of cloth must be put on the violin to prevent marks of any kind.

A clip of wood shaped like a clothes-peg, Fig. 15, 1 inch wide at A, 2 inches from point

Fig. 15

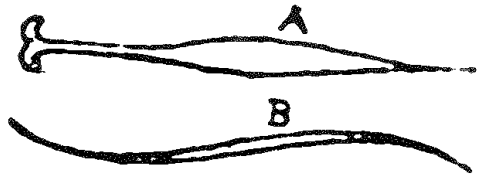


Fig. 16

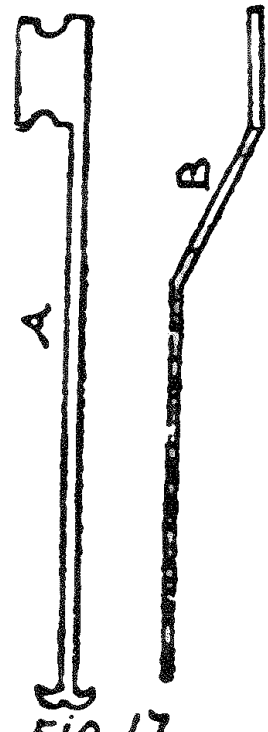


Fig. 17.

to point at B, its length is 9 inches and its thickness $\frac{3}{8}$ inch, and is used for glueing in the bass bar, five of these being required. It should be made of hard wood.

Another clip of a similar kind, but only 2 inches long. The inner surfaces of these

two little tools must be as smooth as possible, so as not to "chafe" the violin.

A sound-post setter, which is made of steel and shaped as in Fig. 16, where A shows the surface, and B the bend of the tool. It should be 8 or 10 inches long.

Another form of sound-post setter was used by Spohr. Its shape is given in Fig. 17. The bend B enables the setter to be applied to the head or foot of the post at will.

The best tools should be procured which it is possible to buy; the art of violin making is not an easy one, and its difficulties are indefinitely multiplied by bad tools.

CHAPTER IV.

THE MODELS.

BY "a model" is meant a flat piece of wood, Fig. 19, about $\frac{1}{8}$ inch thick, which affords a means of drawing the shape which any part of the violin is to take. Great care will be required in shaping these models, as upon them the accuracy of the finished work depends.

While the amateur will naturally wish to copy the outline of an instrument by one of the great masters, it is not to be supposed that he will possess a back or belly by Amati, Stradivarius or Guarnerius. I therefore give the outline of a violin by each of these masters: *see large folding plate.*

A model of either may be made as follows: draw the outline on tracing paper, or, better still, cut out the model chosen from

the woodcut, and paste it on a thin piece of mahogany, having first made the straight edge representing the centre joint quite smooth and even with the plane. Then cut

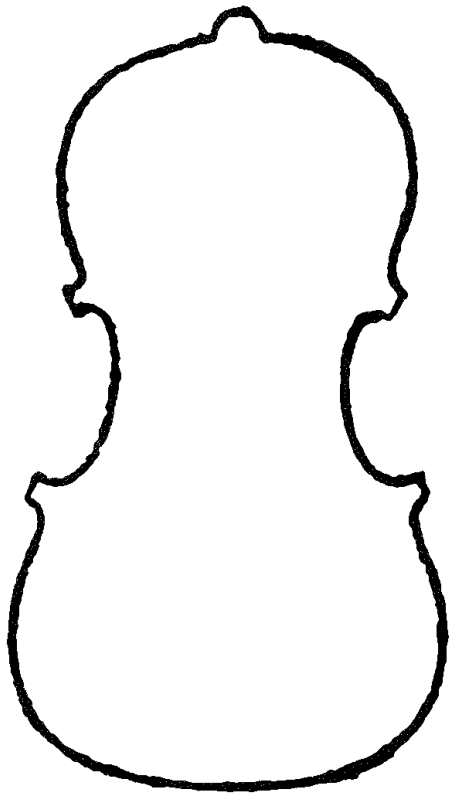


Fig. 19.

out the mahogany the required shape, with scrupulous care, filing out the corners and inlet with a fine file. The shape thus obtained will answer very well if it is carefully done, and can be kept for future violins. The name of the maker of the original instrument taken as the model should be written on the mahogany in ink for identifi-

cation. If it is preferred, the full model can be made in the same way by cutting out another piece of paper, the shape of that taken from the wood-cut, the following will then be the form of the model:

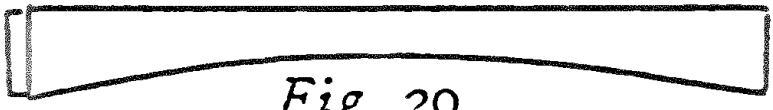


Fig. 20.

Fig. 20 shows the model for the curve of the back and belly taken lengthwise.

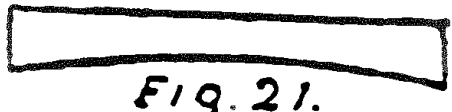


Fig. 21.

Fig. 21 shows the model for the curve of

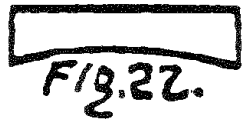


Fig. 22.

the instrument at its greatest width, and Fig. 22 the curve over the *f* holes.

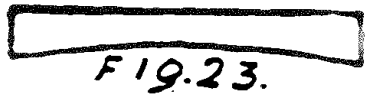


Fig. 23.

Fig. 23 shows the model for the curve at the widest part at the neck end.

Fig. 24 shows the model for drawing and placing the / holes. It will be observed that the position and shape of the / holes varies in different instruments, and a model must be made to suit each style adopted.

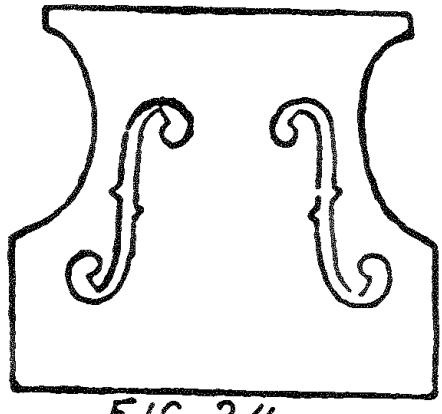


FIG. 24.

The four models shown in Figs. 18, 19, 20 and 21 can only be properly made by adjusting them to the back of another instrument. If the amateur cannot obtain access to a good violin for this purpose, he should purchase a copy of a Stradivarius, which can be bought tolerably cheap. If it seems strange that I should recommend a trashy copy as a model for the arching of a good violin, it must be remembered that the Mirecourt copies—those, at any rate, of the better kind, are made accurately to a scale taken from

the instruments of the best period of Stradivarius, and are correctly made so far as shape is concerned. If the amateur prefers to make these models of arching by his eye alone, he must bear in mind that Stradivarius, following the example of the Amati family, began with a high arching, especially between the / holes, but as he gained experience he found that the lowering of the arch contributed to fullness and brilliance of tone, and the violins of his best period have the lowest arching of all. The chapter on the mathematical method of finding the outline gives a mode of determining the shape of the arch lengthwise; this being once obtained and the model made, the transverse arching will of course be determined by that, as the arches at the upper and lower widths and also at the / holes must necessarily fall from the given height of the lengthwise arch to the level near the edges.

The scroll must also be formed from a good pattern. A good neck and scroll can be bought at all instrument dealers and kept as a model. Directions for carving the

scroll will be found later on. Various methods have been devised for making a model of a scroll without a pattern, but those methods are very cumbersome in operation and uncertain in result, and I recommend the amateur to buy a scroll from Hart, Hill, Chanot, or some other London maker of repute. He can work from this pattern, always knowing that his model is as good an one as can be obtained.

CHAPTER V.

THE MOULD.

THE mould, which, properly speaking, is a "tool" as much as those mentioned in the chapter on tools, is a piece of wood cut in such a shape as to allow

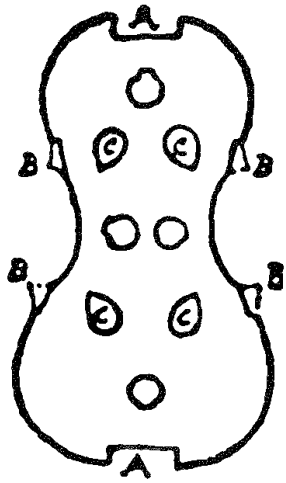


FIG 25.

the blocks, side-pieces and side-linings to be fixed in their proper places, so as to form the true foundations on which the violin is to be built up. This mould is represented in Fig. 25. At A A are the inlets for the two top

and bottom blocks, and the four pieces marked B are for the corner blocks which fill up on each side of the two circular inlets, for the solid basis on which the back and belly are afterwards glued.

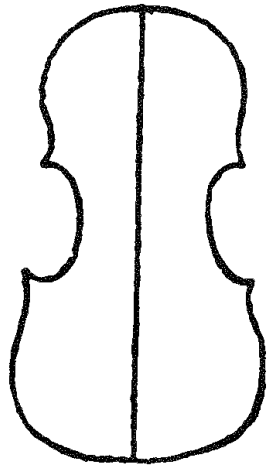


Fig 26

The mould is begun by making a model exactly the shape and size of that for the back and belly, Fig. 19. Lay on the bench the piece intended for the mould and put upon it the model already made, Fig. 19; mark the outline with the point of the tracer, and with the saw and knife clean away the wood, and then with the file dress the edges until they correspond exactly with the pattern (the four corners may be left sharp). This piece will then be of the shape of Fig. 26, and is called the counter mould.

Now take a piece of hard wood (walnut is the best for the purpose) $\frac{3}{4}$ inch in thickness and a little larger than the model in Fig. 19. This piece is meant for the mould itself. . . . Lay it on the table, and the centre mould upon it, and trace on it the outline of the latter with the tracer. Then, with a rule, trace the inlets A A and four inlets at B B B B, as in Fig. 25. The dark line shows the shape of the mould; the dotted lines at B represent the corner blocks. Remove the superfluous wood with the saw and knife, finishing off with the scraper and file.

It is absolutely necessary that the sides of the mould, in all their extent, should be perfectly square with the surface. Any deviation from this rule will throw the side-pieces out of the upright when they come to be fixed, the edges of the mould being the only means of enabling the side-pieces to be glued to the corner blocks in an upright position.

Next pierce the eight holes shown in Fig. 25. The top and bottom holes are to be

respectively 1¼ inches (or 15 lignes French measure) from the inner edge of the inlets A A, the four marked C 1 inch from the inlets B B B B; and the two in the centre 1 inch from the inner edge of the C curves.

Eight other pieces must now be added to the mould.

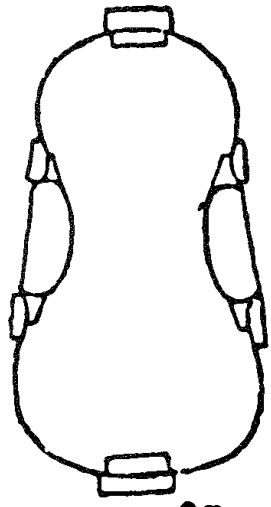


FIG 27.

This figure shows the upper mould surrounded by the eight pieces in question. They must also be of walnut, and of the precise depth of the side-pieces, viz., 1¼ inches, and must be dressed with the scraper and file till they fit perfectly close to the sides of the mould.

The next figure shows the mould, with the blocks (A A) (B B B B) fitted in their places.

These blocks must be of pine, of perfectly even grain and a trifle over $1\frac{1}{4}$ inches high to allow for trimming. The blocks should fit perfectly in their inlets, and their grain and that of the corner blocks also must run *across* the instrument. This gives solidity to the body.

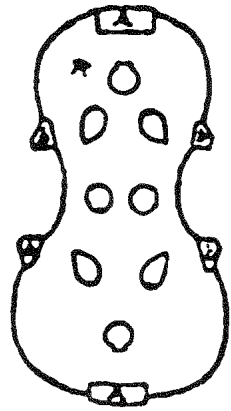


Fig 28.

The blocks being prepared, put a mere spot of glue on the edge of the mould in each of the six inlets, and fix the pieces of pine so that they all stand exactly at the same height. They should project beyond the surface of the mould underneath, but only $\frac{1}{16}$ of an inch.

When the glue is dry, trim off with the knife and file the projecting $\frac{1}{16}$ of an inch,

and file the blocks perfectly level with the underside of the mould, this being the side on which the back will be glued. The ruler must be used to ascertain that the surface corresponds perfectly with that of the mould.

Lay the upper mould on the mould so that the outlines of the two are quite square with each other, and trace out the shape of the former on the blocks. Then cut away the extra wood with a suitable gouge and trim with the knife and file till the blocks are the exact shape of the upper mould. The mould and blocks will then be of the shape of Fig. 26 (page 29). Work slowly and measure constantly with the square to see that the outer edges of the blocks are perfectly square with the surface of the mould.

It is now time to speak of glue, which must be of the best quality and made with the utmost care. This is the more important because no other material is used for holding the parts of the violin together. The best glue is that known as Cologne glue. It is pale in colour and sold in pieces 6 or

8 inches long and 2 wide; it is very brittle and whitish at the broken edge. Common glue is of no use at all. Break a quantity in small pieces and put it in cold water for four hours, which will soften and swell it up. Then take a small glue pot of the ordinary kind, but with the inner vessel *enamelled*. Add water slowly; when the glue is all dissolved it should be of the consistency of very thick oil. *Take care that it never boils.* The glue should always be used very hot, but never boiling. While making, stir it gently with a stick of pine wood, and in using it apply it to the wood with a large camel hair pencil. In summer, glue will dry in four hours; in winter it needs twelve, and, in the latter case, the edges of the wood should be carefully warmed before the glue is put on. When two pieces are glued together, scrape away with a chisel any drops which escape, *while they are hot*, or with a pencil dipped in warm water. It cannot be too often repeated that *only the very best glue obtainable is of any use for violin making.*

CHAPTER VI.

THE SIDE-PIECES AND SIDE-LININGS.

SAW out a piece of maple 30 inches long, 4 inches wide, and $\frac{1}{10}$ inch thick. The grain should run lengthwise. Lay it on the bench at one end and clamp it down with the hand-vice. Plane the surface all over (going away from the vice), then unclamp it, turn it round, clamp the clean end down, and plane the rest. This time a flat bit of wood must be put between the hand-vice and maple to prevent the planed surface from being marked. Plane the other side in the same way, till the piece is reduced to a thickness of $\frac{1}{20}$ inch.

On account of its peculiar grain maple is very difficult stuff to plane, and the plane iron must be dressed so as to project very

slightly, or it will tear the wood and not smooth it. The most wavy and ornamental pieces are at the same time the most difficult to plane, and best suited for the side pieces.

The piece is still too thick, but it must be carefully scraped till all inequalities left by planing are removed and the strip is smoothed to a nice polish on the surface which will be outside the violin.

Now take the tracer and mark your piece into three strips of equal width. Divide them carefully with a knife. Take the plane bottom upwards, between your knees, and, holding each strip in your hands, move the edges along the plane iron till each is exactly $1\frac{1}{4}$ inches wide.

To divide them into proper lengths, measure with a strip of paper round the upper curve of the mould from the point where the neck is to join the block to the corner of the block. Allow for trimming and join at this corner. In the same way measure the inlet, allowing for trimming and joining at both ends. Then measure from the lower corner to the centre of the

lower block. Cut two strips to each length. *Cut the pieces long enough.* The next operation is to bend the strips, which is done with the bending iron. Heat it in a stove, but not hot enough to char the wood. Fix the handle in the bench-vice, and, taking one of the strips, dip it in cold water and bend it to the required shape very gradually. If you are too hasty you will certainly break the strip. Keep the strip damp by frequent dipping. A little practice soon renders this operation easy, but care must be taken to curve square with the width, in other words, when bent, the side-piece should touch the bench at every point of its edge.

The side-pieces can now be fixed. At the four corners and at the point where the sides meet at the lower block the joint must be trimmed and filed till it is perfect. The eight pieces of walnut before mentioned, of the depth of $1\frac{1}{4}$ inches, will now be wanted. Fig. 27 (p. 31) shows them in their places, and their use is to hold the sides to the blocks to which they are to be fixed by means of glue. Rub the edges of the

mould well with soap, taking great care that the soap does not touch the blocks. Glue the two blocks in the C inlet, put the side-piece in its exact place, fix upon it the walnut block, take a hand-vice, and, putting the beak in the hole nearest the C inlet, fix the screw on the outside of the walnut block and tighten screw until the side-piece presses firmly against the soaped mould and the glued blocks. So for the other C inlet.

Glue the upper block and the corner block, lay on the side-piece, add the walnut blocks, clamp up with hand-vices as before, using the holes nearest to the glued block. The side-pieces will, of course, be level with the mould on the under side, and project on the upper surface. At the upper block leave a space of $\frac{1}{3}$ inch, at the lower block the joint must be perfect. To do this properly, run the corner end first, glue the block and clamp, and do the same with the other side-piece, leaving the two ends free. Then bring them together at the lower block and make your joint perfect

before gluing the block; glue the block and clamp up. It is now clear why the eight holes were made in the mould.

When dry and firm, remove the vices and trim the blocks to the level of the side-pieces. It is hardly necessary to say that this must be done slowly and with exceeding care, lest the side-pieces should be disturbed.

It is usual to have the sides slightly narrower at the neck end. This narrowing must now be done. With the knife and file take off the neck block and side *not more than* $\frac{1}{10}$ *of an inch*; the height of the sides must then be graduated all round, starting with $1\frac{1}{4}$ inches at the lower end and finishing $\frac{1}{10}$ inch less at the upper end. This operation requires great care.

The side-linings may now be made and put in. They are of pine, $\frac{3}{16}$ inch broad, $\frac{1}{12}$ inch thick at the thicker and $\frac{1}{16}$ inch at the thinner edge. They are bent by the same means as the sides, glued in with the thicker edge level with the edge of the sides and held in their places

with wooden chips. When these are dry, take a fine knife and separate the blocks from the mould, round off the blocks with a gouge, and the outline of your violin is complete.

CHAPTER VII.

THE BACK.

THE back and belly are made in the same way, save that the latter is left thinner than the former, of which hereafter. In form and arch they are precisely the same.

Take two pieces of maple shaped thus, and of the size previously indicated, Fig. 29.

Fig. 29.

Plane the surface and the thicker edges, and lay the two pieces together on the table thus, Fig. 30.

Fig. 30.

These two when glued together will form the back of the violin, the ridge being the

position of the arch. If you decide to have your back in one piece, its size must be that of the other two laid together, and its shape thus, Fig. 31.

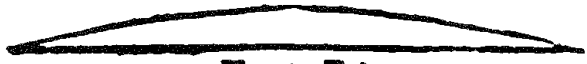


Fig. 31.

If you use two pieces, plane the thicker edges until they join perfectly. Glue them together. When the glue is dry, your back is ready for work.

Lay the two pieces (now practically one) on the bench, and having planed both sides perfectly, take the model (Fig. 19), place it on the flat side, *taking particular care that the joint corresponds with the centre of the model.* With the tracer point draw the outline of the model. Rigid accuracy is indispensable.

Saw round the outline with the bow saw, not going too near the line, as the knife and file have to follow to give the exact outline of the model. See that the edges are at all points square with the flat side.

Open the tracer $\frac{1}{6}$ inch, take the back between your knees, and work a line all round

the edge at that distance from the flat side. This is the thickness the edge is to be.

Put the back on the bench, fix it with hand-screws, and with a large gouge give to it a rough resemblance of the shape which it must ultimately take. Do not hurry over this work. It is hardly necessary to remind the careful workman that when all the gouging, knifing, scraping and filing have been done, a certain thickness of wood must be left, and that one cut too deep at the outset will necessitate a fresh start. Begin by working along the ridge, so as to give to the joint a rough resemblance to the model of the arching lengthwise. Take short and shallow strokes with the gouge, cutting off only very small chips at a time, and be sure and leave enough wood for the operations which are to follow. When this is done there will, of course, be a cavity, like a miniature railway cutting, getting deeper as you get further away from the centre.

Now begin again from the centre, and work out in the rough the arching down to the middle of the C inlets.

Next clear away from the point where the two archings meet, four sloping lines diagonally, to the middle of the upper and lower curves. The back-plate will now resemble the following figure, Fig. 32.

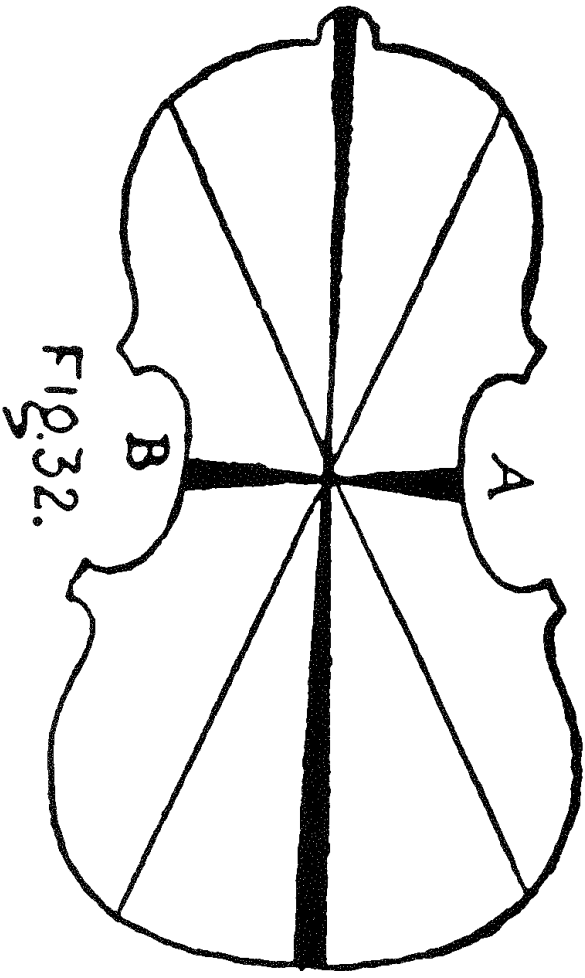


FIG. 32.

Next clear away all the spare wood from the centre to the edges, and then with the smallest round-bottomed plane, make the whole surface tolerably smooth, until the two models fit with accuracy. The place where the shorter model should fit must be

found by taking the model of the *f* holes and marking through it the two notches on their inner edges. The highest arch must be across these notches.

Now take the same plane and clear out the groove or slight depression round the edge, so that the arching of the instrument falls away all round to the bottom of this little valley, from the level of which there will be a slight rise to the level of the outer edges.

Having thus got the outside of the back to the proper shape, as far as the small plane will do it, finish it off with the scrapers and fine glass-paper.

You must now turn the plate the other side up. Before doing this, however, put a piece of cloth or green baize on the bench, to prevent the outer surface of the back from being scratched. Under this cloth pieces of wood must be fixed all round, of such a height as to support the outer edges, and at the same time allow the middle of the back to rest upon the bench. The reason of this is obvious; if this precaution were not taken

the back would not remain still while the outer side was being hollowed out. In hollowing out the inner surface, care must be taken to leave level places where the blocks will have to be attached, and to leave more wood all over than will be the case when the back is finished. The compasses referred to in Chapter III, Fig. 10, will enable you to obtain the requisite thicknesses, which are of such vital importance that I have treated the matter fully in a separate chapter.

Now turn to Chapter IX, and reduce the back to its proper thickness all over as there directed. Having carried through this operation with great care, the outer edge of the back should correspond exactly in outline with the side-pieces, which are already fixed on the mould, and the back should project over the side-pieces $\frac{3}{16}$ inch all round. Now take a good, fine, biting file, and bevel very slightly round the whole inside of the edge, using a round file where the short curves render it necessary, and a flat one everywhere else; finish off with

medium sand-paper. If the fit is accurate, the back is ready to be glued on, which is done as follows: lay the back upon the side-pieces, in the exact place it is to occupy. Mark with a pencil on the edge of the back the joint where the side-pieces meet at the broad end of the instrument and also make marks at the four corners where the side-pieces are joined at the extremities of the C inlets. These markings are to enable you to lay the back in an instant, and without hesitation, in the place where you want it to be. The glue has to be used as hot as possible without boiling, and unless you can lay down the back in its exact place the moment the glue is put on it will lose its heat and its tenacity while you are shuffling the back about to find its place. Have everything ready, therefore, for a rapid and precise operation, so as to be in readiness the moment the glue is laid on. When you are ready, take the camel-hair brush, and lay the hot glue upon the side-pieces, put the back in its place, and secure it with the wooden hand-screws, putting two

on the upper block, two on the lower, one at each corner, and as many more as you can place round the edges. Each screw should have a piece of cloth placed upon its surface, to keep it from bruising the wood. The glue which has been forced out by the pressure must be at once removed with a camel-hair brush dipped in the hot water of the glue-pot. Let it stand till it is perfectly dry.

The belly is fixed in the same way when it is completed by the fixing of the bass bar as shown later on. When both back and belly are glued on, any variation in the projection of either beyond the side-pieces must be adjusted with the knife and file, so that the projection is perfectly symmetrical all round.

CHAPTER VIII.

OF THE BELLY.

IF the operator has succeeded in making a good back, either whole or joined, he will meet with no great difficulty in making the belly; the cutting out of the / holes being the only difference, and, moreover, the little projection at the smaller end of the back is not required for the belly. It must be remembered, however, that pine is much more fragile than maple, and will therefore require proportionately increased care in working; it must be worked with very sharp tools, and, as it is liable to split along the grain, the tool must be used both ways in getting out a curve, lest the wood split. "Measure twice before you cut once," cut lightly and delicately, and be content to take off a very small piece at each stroke

lest one unlucky gash should at the same time spoil your labour and your temper.

Take care that the joint follows exactly the grain of the wood, which should be perfectly straight from end to end, and that you get a faultless joint before glueing the pieces together. It is of great importance that the heart-wood—in other words, the part which grows nearest the centre of the tree, and consequently is of closer grain, should be on the side furthest from the joint.

In regulating the thickness of the different parts of the belly, follow the directions given in Chapter IX.

THE *f* HOLES.

Before these are cut out the belly should in every other respect be finished. Place the model of the *f* holes upon the belly, having, of course, first laid the latter upon the bench, taking care that the position of the model is accurately adjusted. Then with a pencil sharpened to a very fine point, carefully trace out the interior of the *f* holes in the model.

First of all, pierce the round holes above and below somewhat less than the tracing. Then introduce a very sharp penknife blade and cut away, little by little, all the wood within the tracing.

CHAPTER IX.

THE THICKNESS OF THE BACK AND BELLY.

WHEN the belly has been finished all but reducing it to its proper thickness, draw a line across the centre from the two in notches of the / holes, and draw by measurements a similar mark on the back. The middle of this line will in each case be the starting-point of the operation for reducing the wood to its proper thickness. This operation requires the most scrupulous care, as upon its successful performance the vibrations of the instrument, and consequently its quality of tone, will entirely depend.

The lines above mentioned must be drawn upon the *inside* of the belly and back. Now open the compasses exactly $\frac{3}{4}$ inch, and, putting one leg of the compasses on

the centre of the line, mark off that distance on either side from the centre point. These two points will therefore be 1½ inches, or double the distance between the compass points apart. Now with the ruler draw through these two points lines parallel with the joint 3 inches towards the top and 2 inches towards the bottom. Join these lines at their extremities, and you thus have a rectangular space 5 inches long and 1½ inches wide. All the wood of the belly in this space must be ⅛ inch thick.

This thickness must be diminished gradually from ⅛ inch (or 1½ lignes French measure) at the edges of the rectangular space down to nearly $\frac{3}{32}$ inch at the points where the belly joins the blocks,* and the same thickness must be left all round the under surface of the belly where the groove or valley runs just within the outer edges of its upper surface. *Take care that this diminution is gradual, and not by jumps and steps.*

* Some makers advise 1½ lignes all over, but a little thicker by the soundpost.

The thickness of the back is obtained in precisely the same way, *but the back must be throughout a trifle over* $\frac{1}{32}$ *inch thicker than the belly.* In other words, the rectangular space on the back will be $\frac{1}{32}$ inch thicker than that on the belly, the groove round the edge $\frac{1}{32}$ inch thicker, and the gradual diminution from the one to the other $\frac{1}{32}$ inch thicker at the corresponding points.

To ensure these thicknesses being correctly obtained, make a small wedge of some hard wood $\frac{1}{8}$ inch thick at the broader edge, $\frac{1}{32}$ inch at the centre, and $\frac{1}{16}$ inch at the thin edge. This will serve to adjust the compasses, the buttons of which must be put at the thickness required, and fixed at that position by the screw. Work with the small plane and scraper.

Note the following: the strokes of the plane will take away your pencil lines, and fresh ones must be drawn at each measurement. Do not trust your eye, but work rigidly to the exact rectangular shown by the pencil marks.

The plane and scrapers must not reduce your wood to the given thickness; these must be finished and brought down to their proper gauge with glass-paper. The glass-paper is the last "tool" to be used on the wood, and when the rectangular is thus finished, the compass buttons should move quite easily over it, *but touch it at all points.*

Make a second hard wood wedge for the back, of course $\frac{2}{32}$ inch thicker in all parts than that for the belly.

CHAPTER X.

THE BASS BAR.

THE making and fixing of this important member will finish the interior work of the violin. It is made of pine, fixed parallel to the joint and between it and the left / hole. Its purpose is to give depth and power to the third and fourth strings.

The bar should be $10\frac{1}{2}$ inches to $10\frac{3}{4}$ inches long, $\frac{1}{4}$ inch thick, $\frac{1}{3}$ inch deep at its centre, and tapering off to the thinnest strip at the ends. The edge glued to the belly is, of course, curved to fit precisely, the other edge is straight. The centre of the bar falls on the line joining the inner notches of the / holes. The grain of the bar must correspond with that of the belly.

The measurements here given are for the thickness of belly and back above in-

timated; but the proportions of the bar differ in different violins.

Take care that the bar is at right angles to the surface of the belly and that the curved edge fits the belly with the greatest possible exactitude. Glue that edge and fix the bar parallel to the joint, so that the outer edge of the bar is $\frac{1}{16}$ inch from the inner edge of the upper circle of the *f* hole on the bass side. Clip it with the clips shown in the chapter on tools (Fig. 15), and let it dry, first removing the superfluous glue with a wet camel-hair brush as before.

Some writers contend that the bass bar would be of greater service if glued diagonally to the grain. The amateur who wishes to do so can easily test this for himself. The following opinion of an American maker (Mr. W. H. Colton) is not without interest. Mr. Colton was a friend of Ole Bull, and the "note" is from the life of the latter, published at Boston in 1883:

"The oblique position of the bar has not been generally adopted. The bar is ordin-

arily placed with its outer side on a line parallel to the centre line or glue joint of the top, and at a distance from it about equal to one-half the width of the bridge, measured from the outer extremities of the feet. A slight spring is given to the ends of the bar, so that when glued to the top it produces an upward pressure at the centre, under the foot of the bridge. This pressure should equal the downward thrust of the bridge, the force of which will depend upon the angle of the strings over its top. Practice soon discovers a certain medium of spring which agrees fairly with a certain height of bridge.

An entirely successful result is not always insured, but a positive failure is avoided. But in the case of the oblique bar, no such common factor can be found to fit all cases, even averagely well. Each instrument presents its own particular problem. The spring at each end must be accurately determined by mechanical means, which will take into account both the resistance of the top, due to its comparative strength of fibre and the resistance due to the form of

modelling. The same degree of obliquity and position relative to the foot of the bridge which it supports, will not answer equally well in all cases. But when the required conditions are fulfilled, the oblique bar does beyond doubt very greatly increase the depth and volume of tone, particularly of the lower strings. Mr. Bull spent many years in attempting to formulate the rules which govern this most perplexing part of the organism of the violin. His observations and experiments demonstrated to him the correctness of the oblique position; and though, as was his wont, he frankly owned to more failures than one, his instances of success illustrated by his Da Salo and many other instruments, bore most convincing witness to the truth of his theory."

Ole Bull's own opinion on the matter is thus expressed in his "Violin Notes":

"The principal object of the bar is to resist the pressure of the strings upon the top. All old violins require to be rebarred, owing to the height of the present musical

pitch over that of one hundred years ago. The old short bars are no longer adapted to the greater strain, and more powerful ones are needed. From long-continued strain, the pulling of the two extremes towards the centre, and the downward pressure of the bridge at that point, the tops of many old violins have bulged up at the ends and sunk down at the centre. The adjustment of a new bar will tend to remedy this. As the bar was originally placed by Gaspar Da Salo, so it should be placed now, that is, not in the direction of the fibres of the top, but obliquely, the end under the fingerboard being nearest the centre. In this position it appears to give ample support to the bridge and to allow a fuller and richer tone.

CHAPTER XI.

THE PURFLING.

THE purfling is the ornamental black lines running round the outer edge of the back and belly—made of two lines of black with a strip of white wood between.

The wood for the purfling can be bought ready made at any violin maker's, and it is better to buy it than try to make it, as good machinery is needed to do the work well.

The grooves for the insertion of the purfling are made with a purfling tool. The distance of the purfling from the edge is a matter of taste. When decided, open the tracer to the required width and fix it with the screw; put the violin on your knees, and trace the first line, running one limb along the outer edge (which is still square,

the rounding off comes later). Then trace the second line in like manner. The purfling tool is then adjusted to the required distance. The following description of an excellent purfling tool, directions for use are from Mr. Davidson's book on "The Violin."

"By this instrument, it will be perceived we can vary the distances from the edges, to imitate any model chosen. The two cutters are thin pieces of steel, sharpened at an angle, with a shoulder left of the necessary thickness, so that the groove cut may fit the indenting strips. The two cutters are kept in position by the screw *a*. Fig. 34*a*

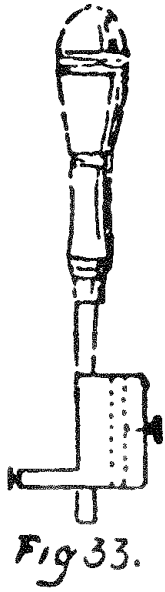


Fig 33.

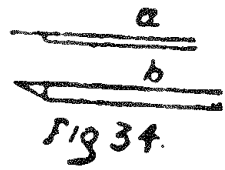


Fig 34.

represents one of the cutters, seen edgeways; Fig. 34*b* shows the form of blade

and point. There is a small screw for adjusting the shoulder piece to any required distance the purfling may be intended to be placed, Fig. 33*b*. This tool may be made from iron—with the exception of the cutters, of course—and fixed in an ordinary tool-handle. Another purfling tool, but much simplified, is shown in Fig. 35. The body of

FIG 35.

this tool may be formed from a piece of beech, having two cutters the same as the preceding, fixed by a binding-screw. This simple tool answers admirably, and may be easily made by any amateur, or can be purchased for about three shillings and sixpence. The angular parts of the blades must be made thin, and the edges kept very keen. Either of those two tools is to be held

quite steady, and a double cut of the proper depth run round the margin of the back and breast, the interior wood is afterwards to be cleanly cut out with a chisel-sharpened awl.* The indenting groove must be cut gradually and carefully, never allowing the tool to tear the wood, or slip from the proper place. At the parts of the back and belly opposite to the extremities of the neck, where the indenting tool does not reach, two pencil lines may be drawn through the spaces, and the groove cut to such lines with a thin pointed knife, and the wood cut out as previously."

When the purfling tool has been run twice along the intended groove, take a sharp knife and cut away enough wood from the groove to allow the awl to enter. The next figure shows the shape to which the awl should be bent and the way the point should be ground. A shows the side view, and B the front view of the point. When you have

* By a "chisel-sharpened awl" is meant a cobbler's awl, narrow enough to run easily in the width of the groove made by the purfling tool but ground to a *flat and sharp edge*.

Fig 36.

cleared away with a knife a starting-point for the awl, begin with the point of the awl and turn up the strip of wood intended to be brought away just as a ploughshare cuts underneath the soil and turns it up so as to leave a furrow. This must, of course, be done slowly and with great care, seeing that the groove required is extremely shallow and the wood from which it has to be cut has already been made very thin.

Glue the strip of purfling to be inserted, or both strips if two are desired, and gently squeeze *both together* into their grooves, care being taken that the small ridge of wood between the grooves is not broken. Make neat joints at the four corners, and remove

any superfluous glue with the camel-hair brush. When the glue is dry, take away the projecting surface of the purfling with a very sharp knife, and finish off with the scraper and glass-paper.

CHAPTER XII.

THE NECK.

TAKE a piece of maple 10 inches long, $2\frac{1}{3}$ inches wide and $1\frac{2}{3}$ inches thick, and plane it smooth on all four faces. The maple for the neck is usually selected from wood well marked and figured, so as to be as ornamental as possible. The purfling of the body, and the scroll of the neck are the only parts of the instrument which are simply ornamental without being useful, but there is no reason why the useful parts should not be as ornamental as possible.

Take the finished neck which you have bought as a model, and draw the outline of the model on the piece of maple. Then with the T square, draw a line all round the wood $5\frac{1}{3}$ inches from the end where it is to be fastened to the body. This line will be

at the point G, Fig. 37, which is the place where the peg-box begins.

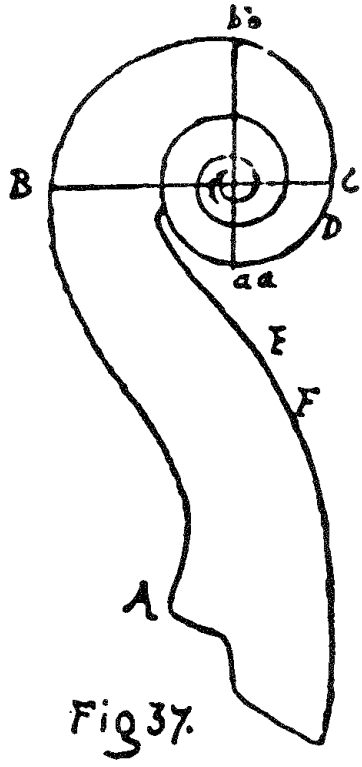


Fig 37.

Take the compasses, open the points $\frac{5}{64}$ inch which is half the width of the narrow side; mark a point at each end and draw on each of the narrow sides a pencil line the whole length of the piece. Open the compasses $\frac{11}{24}$ inch, place one point at the angle where the long line meets the transverse line at G, and mark on that transverse line on both sides of the line which cuts it, a point $\frac{11}{24}$ inch from the long line, between which points there will, of course, be $\frac{11}{12}$ inch.

This $1\frac{1}{2}$ inch shows the width of the neck at the beginning of the part held by the hand, and also the width of the nut (the small piece of ebony over which the strings pass out of the peg-box).

Open the compasses $\frac{5}{8}$ inch, and put one leg on the angle made by the long line and the cross line on the narrow side opposite to that on which you have been working, and mark as before upon the cross line two points on either side of the long line, the distance between which will be $1\frac{1}{4}$ inch. This $1\frac{1}{4}$ inch is to be the thickness of the neck at the point where it joins the belly.

Now fasten the neck to the bench with the hand-vice, the broad side upwards, so that the scroll end projects over the edge of the table, and cut away with the bow-saw all the superfluous wood. Begin at point G (Fig. 37) and proceed along the line F E up into the corner; then start from C and work past D round the curve to the corner point; start again from C, work round the top past B down to A. This gives a rough outline,

from G round to A, which must now, by means of chisel, knife and file, be brought to proper shape.

Then take your measurements from the model; cut away the wood from the point A to the part where the neck joins the body, and give to that part, and to the neck proper, which is to be held by the hand, its proper shape, finishing it off to the greatest nicety with scrapers, files and glass-paper.

Now fasten the neck down to the bench as before, and carve out with gouges, knives, etc., the curves of the scroll, beginning at the central "button" which, in Fig. 37, is crossed by the line B C and the dotted line *aa*, *bb*, the point where these lines meet being the centre of the button. Begin with the smallest gouge, and take a larger tool as the spiral requires it. Finish it with great care with the knife, scrapers and glass paper. Before beginning to carve one side, you will, of course, draw on both sides the lines B C and *aa*, *bb*. If this precaution is not taken, you will find it difficult to make the centres of the buttons correspond. Be

careful, in widening down from B to A, to maintain the gradual increase of thickness which you will find in your model, taking constant measurements as you proceed. Having finished off the sides, work out the two grooves round the edge A B C D. The neck is now finished, except hollowing out the peg-box, and preparing the foot to join the body. This foot will be glued on to the block, and level with it at the top, while the bottom will be glued to the projecting semi-circle on the back of the violin, and must, therefore, be filed until its shape exactly corresponds with it. From this point the foot will gradually increase in size until it attains the width already marked out. Draw down the foot of the neck a line in continuation of that already drawn, which divides it into two parts. The foot of the neck, or in other words, the surface which is glued to the block, will determine the height which the finger-board is to be above the body of the violin, and before you glue the neck finally in its place you must finish your finger-board according to the directions

given later, and, holding it with one hand in the place in which it is intended to be, adjust the foot of the neck so as to give to the finger-board its proper height when glued on. Fig. 38 gives a view of the foot of the

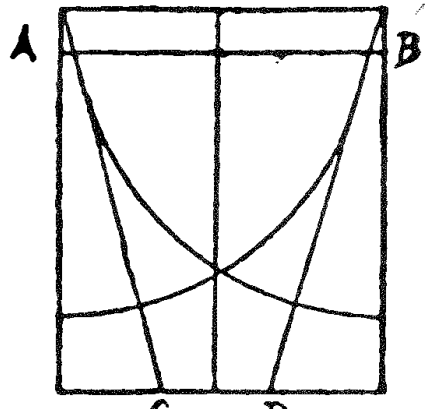


Fig 38.

neck (A B C D) the part above the line A B being the part which projects above the level of the block.

The mortising of the peg-box and the placing and drilling of the peg-holes ought to present no difficulty. The conical shape of the peg-holes is obtained by means of a small tapered gouge.

In gluing on the neck, regard must be had to two points: The central line of the surface to be attached to the finger-board must make a straight line with the belly-joint, and that surface as well as the end or foot must

be so adjusted that while the proper height is given to the finger-board the centre of the scroll-buttons is intersected by an imaginary line drawn in continuation of the level at which the back is glued to the sides.

The time has now come to fix the neck. When the side pieces were put on, more wood was left at this place than was required, this must now be cut away, so as to allow the neck to fit in exactly. An inlet $\frac{1}{4}$ inch deep, must now be cut in the block—$\frac{1}{4}$ inch deep, that is to say, from the outer surface of the side-pieces, enough wood having, of course, been left at the end of the neck to allow for this inlet.

Before gluing the neck every precaution must have been taken to ensure its correct shape and position, and the neck should fit into the inlet so accurately as to require some little force to get it to its place. You will now want a piece of cork $\frac{1}{4}$ inch thick and 2 inches long by 1 inch broad.* Glue thoroughly

---

* Felt is preferable as it is not so liable to leave an impression on the wood.

the inside of the inlet, put the foot of the neck in its place, but the piece of cork on the back so as to cover the button, and, placing this cork on the beak of the hand-vice, screw down the screw on to the end of the neck. In half an hour unscrew it and see if the finger-board is at the right height. If so, the glue can be left to dry; if not, it must be readjusted, and the operation gone through until it is. In damp weather the end of the neck should be warmed before it is put in, and the glue will have a more binding effect if a good number of holes are made with a knife in the end of the neck, and in the small surface which fits upon the button.

CHAPTER XIII.

THE FINGERBOARD.

THE finger-board is so simple and so easily made that the best way will be to purchase one as a model. The amateur who has followed me thus far will have no difficulty in making one exactly like it from a piece of ebony. It is hardly necessary to say that its width at the narrow end must be adjusted to that of the neck, and that it must fit the neck accurately at the sides, and should join it so closely that they both appear as one piece. Be careful in gluing it on, not to mark the neck or the finger-board with the hand screws. The height of the finger-board varies according to the model of the instrument; its mean height at

the middle of its upper curve should be $\frac{7}{10}$ inch from the belly joint, but this will all depend upon the height of the bridge and the depth of touch required for the strings.

CHAPTER XIV.

THE NUT AND THE TAIL PIECE NUT.

THE nut is the small piece of wood over which the strings pass out of the peg-box, and the tail piece nut is the piece which resists the action of the string by which the tail piece is held to the button. Take a piece of ebony of the size for the nut, as to which the eye will be a sufficient guide. Its length will be determined by the width of the neck, with which it should exactly correspond. Its curve must correspond exactly with that of the finger-board, and its upper surface be $\frac{1}{16}$ inch higher. Its front, against which the finger-board is glued, will be perpendicular to the neck, and the upper surface in which the slits for the strings are cut must slope gradually down towards the peg-box, so as to

present a rounded surface on which the strings may rest.

The string-guard is usually a small piece of ebony about 1 inch long and $\frac{1}{4}$ inch square, which is glued into an inlet made in the block at the lower end. Its outer surface must be level with the side pieces, into which it must fit accurately. An edge should be left upon it to stand $\frac{}{16}$ inch above the belly, and it should be trimmed to the surface of the latter. The edge over which the strings pass must be rounded so that they are not cut. The four slits in the nut should not be cut, but filed out with a rat-tail file.

The making of the button presents no difficulty. It is a sort of drawer-handle on a small scale, made of ebony, with a projecting limb about 1 inch long, and $\frac{3}{8}$ inch in diameter, which fits accurately into a hole of that size bored through the sidepieces and into the block, and we are now ready to begin to varnish.

CHAPTER XV.

VARNISHING AND POLISHING.

HOWEVER carefully the work has been done. it is almost certain that on looking it over closely you will find some slight roughness or unevenness, some place where glue has trickled out, some part of the edges not nicely rounded, or some other fault overlooked. These faults must now be searched for and remedied by file, glass-paper or other suitable means. When all is perfect, polish with very fine glass-paper the whole surface.

Now take a clean sponge, dip it in cold water, squeeze it nearly dry, and gently damp *(not wet)* the instrument all over. Then polish as before until the surface has the appearance of having been covered with a very thin coat of poor varnish.

The making of the varnishes, both spirit and oil, is treated in the next chapter.

The best tool to lay on the varnish is a flat camel-hair or sable brush, about an inch wide, and which has never been used. The varnish being ready, take a small quantity in a glazed earthenware vessel. Have as little varnish as possible at a time in the brush, and take only two strokes, one up and the other down, over each part of the wood. Take care and "lay it off" evenly, as a painter would say—that is, work so that the marks of the brush are invisible, and as if the varnish had all been put on with one simple stroke. Try your hand first on two pieces of maple and pine, both treated and prepared for varnishing just like the violin, and do not touch the instrument with varnish until you have put two coats of oil varnish on each piece as an experiment. When you have succeeded in getting a brilliant surface, from which brush-marks are totally absent, you can venture on your violin. After each coat of *spirit* varnish, polish with a linen cloth, the older the

material, and the softer its texture, the better will it be for your purpose You cannot obtain a really brilliant lustre with spirit varnish unless you polish with linen cloth after each coat.

CHAPTER XVI.

VARNISHES AND COLOURING MATTER.

HAVING completed the violin, the next step is to varnish it, and there are two modes of carrying out this process. The one is genuine, the other is a sham; and if the amateur has succeeded in making an instrument worth varnishing at all, I strongly advise him to varnish it that it may pass for what it is, a new instrument, and not pretend to be what it is not, an old one. New instruments are made to look old by colouring the wood before the real varnish is applied, and leaving those parts uncoloured which in an old violin shows the effects of wear and tear. This fraud is on every ground to be deprecated, for nothing will be gained by it, while the genuine workman, who cares more for turning out a good violin than he does

for making money by dishonest means, will feel that by such a fraud he loses what money can never buy, self-respect. The proper way to varnish the violin is to varnish it all over without any previous colouring. This may be done either with plain or coloured varnish. Both are equally genuine; the fraud consists, as I have said, in making the violin look as though coloured varnish had been originally used, but worn away by long use. I shall now proceed to give precise directions for making the two kinds of varnish used for the violin, viz., oil varnish and spirit varnish, as well as the mode of colouring the varnish in various tints when colouring is desired.

The best, though most troublesome, is

OIL VARNISH.

This is vastly better than spirit varnish, as it is more beautiful, more durable and more elastic; moreover, it needs no polishing. Two coats, properly applied, will generally be found sufficient, whereas spirit varnish requires six or seven applications.

The ingredients of good oil varnish are three: amber, spirits of turpentine and linseed oil. The latter, however, is such a bad drier, that it must be used in the form known as "boiled oil." The operator could, of course, perform the operation of "boiling" it himself, but as it is very dangerous unless carried out with great care, and as boiled oil can be purchased ready for use without any trouble or risk, I think it better not to give any recipes for rendering linseed oil a better drier.

I strongly recommend that varnish that is sold, in any quantity, ready for use, by Messrs. Winsor and Newton, artists' colourmen, London, who prepare boiled oil of the very finest quality for artists, so that the violin maker may rely upon obtaining the best procurable. Cheap common boiled oil is nearly black, and is worse than useless for the purpose under consideration.

The following is the way to prepare oil varnish. The materials required are;

Amber	4 ounces.
Boiled oil	2 ounces.
Oil of turpentine . . .	4 ounces.

Break up the amber into pieces the size of peas, and having prepared a charcoal fire, put the amber into a glazed iron vessel never before used, and with it a spoonful of the turpentine, and put the pot on the fire and the cover on it. A quarter of an hour's warming will suffice to melt the amber, but it must now and then be stirred with a strip of pine wood. When the amber is melted down, take the pot from the fire, stir it till cool, and add the oil very slowly, stirring all the time so as to thoroughly mix the ingredients, and then add the turpentine, to which you have previously given the colour desired.

The colouring matters must simply be powdered and put in the turpentine to dissolve, some time before it is wanted for making the varnish. The colouring matters are here given:

Yellow.—Aloes, gamboge, turmeries or saffron; these will give various tints of

yellow, from light golden to deep, as may be desired. The effect of golden varnish is very brilliant.

Red.—Dragon's blood or Saunder's wood. By mixing with yellow any tint of light red can be obtained.

Brown.—Madder or logwood.

It must be remembered that each coat adds a slight depth of colour to the previous one. These colouring matters are suitable for colouring either oil or spirit varnish. It is sometimes the practice to make a quantity of any colour in as small a portion of turpentine as will dissolve it, and keep it for dilution to the requisite tint when required.

The following are recipes for oil varnishes of different kinds:

Amber, coarsely powdered .	2 oz.
Venice turpentine . . .	2 fl. drs.
Prepared linseed-oil . .	1½ fl. oz.
Oil of turpentine . . .	2 fl. oz.

Amber, fused	2 oz.
Oil of turpentine	5 ,,
Drying linseed-oil . . .	5 ,,
Amber, fused	4 ,,

Lac	1 oz.
Drying linseed-oil . . .	4 ,,
Oil of turpentine	8 ,,

Dissolve the lac separately, then add the amber and thoroughly dissolve by heat.

Clear and pale African copal .	1 lb.
Pale drying oil	1 qt.
Rectified oil of turpentine . .	3 pt.

Boil the copal and drying-oil until stringy, then thin with the turpentine, and strain immediately into the store jar. This varnish is hard and durable, and dries hard in from twelve to twenty-four hours.

Clear pale rosin . . .	3½ lbs.
Oil of turpentine . . .	1 gal.

Dissolve. This is the varnish generally used on the cheap violins.

Colourless Copal Varnish.—To prepare this varnish the copal must be picked, each piece then broken, upon which a drop or two of rosemary oil is to be poured; the pieces which become soft upon the application of the oil are those only to be used. Those pieces having been selected are to be ground

to a fine powder, and then sifted. Place the powder in a glass vessel and add to it a corresponding volume of the rosemary oil; stir for a few minutes, when you will have a thick liquid. Leave the liquid to rest for two or three hours, then add a few drops of pure alcohol, and mix slowly, after which reduce with alcohol until the required consistence is obtained. This is a clear and beautiful varnish.

The following are recipes for spirit-varnishes of different kinds:

Elemi	½ oz. or 1 part.
Mastic in tears	½ ,, ,, 2 ,,
Seed-lac	1 ,, ,, 2 ,,
Sandarac	2 ,, ,, 4 ,,
Venice turpentine	1 ,, ,, 2 ,,
Powdered glass	1 ,, ,, 4 ,,
Alcohol	16 ,, ,, 32 ,,

Mastic	1 dr.
Sandarac	1 ,,
Lac	6½ ,,
Alcohol	5 fl. oz.

Gum sandarac	4 oz.
Seed-lac	2 ,,
Mastic	1 ,,
Benzoin in tears	1 ,,
Powdered glass	4 ,,
Venice turpentine	2 ,,
Alcohol	32 ,,

Seed-lac	5 ,,
Sandarac	2 ,,
Elemi	1½ ,,
Venice turpentine	2 ,,
Powdered glass	5 ,,
Alcohol	24 ,,

Coarsely powdered copal and glass of each	4 oz.
Camphor	½ ,,
Alcohol (64 O. P.)	1 pt.

Heat the mixture (with frequent stirring) in a water bath, so that the bubbles may be counted as they rise, until solution is complete, then decant the clear portion.

Mastic	¼ lb..
Turpentine varnish	2½ fl. oz.
Alcohol	1 pt.

This is the spirit-varnish so often seen upon the clear German violins.

Colourless Spirit Varnish.—Dissolve 2½ oz. picked orange lac in a pint of rectified alcohol, and boil well for a few minutes with 5 oz. of well burnt and recently heated animal charcoal. A small quantity of the solution should now be filtered, and if not colourless add more charcoal. When colourless press the liquor through a piece of silk, and filter through fine filtering paper. This varnish must be used in a room where the temperature is about 60 degrees Fahr. It does not chill or bloom, and dries in a few minutes.

CHAPTER XVII.

THE VARNISH.

THE MS. "Violin Notes" left by Ole Bull, contain the following interesting observations:

"In a search after an elucidation of this so-called lost art, three facts immediately present themselves: first, this varnish was employed by the very earliest of the Italian makers as well as the later; second, its use was common only in Italy; third, it ceased to be applied to violins after A.D. 1750-60.

"In texture this varnish is extremely supple; it will yield to pressure, but breaks or scales off under a sudden blow. It is entirely transparent, and of all shades of brown, red and yellow. The vehicle in which the gums and colours are dissolved is an oil. Applied to a violin, it compacts the tone together, without

rendering it shrill or harsh, and gives additional beauty to the wood. That its ingredients were indigenous to the Italian soil is out of the question. It is well known that much of the maple used by the violin-makers of that day came from Turkey. Imported to Venice, it was employed in the construction of oars, etc. The extremely curly pieces, owing to their liability to fracture under rough usage, were consequently rejected, to be appropriated by the violin-makers. Venice and Genoa held great command over the entire Eastern trade, and undoubtedly through these ports came the various gums and colouring substances of which this varnish was made.

"Turning to other countries of Europe—Germany, France and England—and examining the productions of their most celebrated violin-makers contemporaneous with the Cremonese school, scarcely a trace of the Italian varnish is to be met with. In German instruments the varnish is distinguished by extreme hardness, a glassy lustre, and an absence of all delicate shades of

colour. The vehicle or menstruum, moreover, is alcohol. In France, the colouring was sometimes good, but in general too pronounced. The varnish of the old English makers lacked transparency. In both these countries the vehicle was oil, but the varnish in quantity and texture differed essentially from the Italian.

"Three questions occur: first, was this manufacture a secret? second, how was this secret lost? third, are there any clues for perusal and examination? Answers to these questions should clear up the mystery of this so-called lost art.

"To begin, then, with the first question, was the manufacture of this varnish a secret? There is no reasonable doubt that it was, but only in a certain way. For a period of about two hundred years, from the time of Gaspar da Salo to that of the Bergonzi, the varnish was common to every Italian violin-maker. Cremona had no monopoly, for the knowledge and use of it extended to Padua, Venice, Rome and Naples. It is impossible, therefore, during this long time to say that

the selection of ingredients or the method of preparation employed in the manufacture of this substance, so well known and widely used, were in any sense a secret. But a little later quite a change is observable. From a hundred Italian instruments of this later date, only a notable few can be selected as possessing the true varnish; and that this marked characteristic in the case of these few is not the result of mere chance is apparent from the fact that the artists who made them have consistently applied it to all their productions. From about 1745 to about 1760, then, the manufacture of this varnish may be properly called a secret, as being confined to a chosen few.

"A bitter rivalry had always existed between the Neapolitan, Venetian and Cremonese schools. Alessandro Gagliano, probably a pupil of Stradivarius, had established himself at Naples. Dominico Montagnana and Sanctus Seraphino were the masters of the art in Venice. The Cremonese makers seem to have relied on their sonorous, well-selected wood, their

established principles of construction, and their ancient reputation; the Venetians, on the beauty of their wood, and careful finish; and the Neapolitans on their exceedingly low price.

"As a knowledge of the varnish became at last confined to a few, instances are not wanting of the persecution of such by their less fortunate fellow-workmen. It is quite evident, that, apart from any considerations of beauty, the importance of the varnish as an acoustic element was well recognised.

"The second question now presents itself: how was the secret lost? A careful and repeated examination, extending to a vast number of objects, reveals the fact that the varnish of the Italian violin-maker of the time of Stradivarius and before him was common to the painter, the varnisher, and the gilder as well. Let an ancient piece of Italian furniture, a chair, a cabinet, the case of a spinet or harpsichord, be examined, and provided it has escaped modern retouching, the varnish might be by Stradivarius himself. Generally it is colourless, then the

quality and texture are the indications, but occasionally it is of brilliant hues, and then it proclaims itself to the eye at once. Let specimens of a later date, say, 1760, be examined, there is no such varnish. This is smooth, fairly lustrous, hard and durable. The chair of 1725 presents a surface broken and worn away, that of 1760, one comparatively smooth, and fairly able to endure further vicissitudes of time.

"Between the years 1740 and 1760, great changes in the manufacture of varnish were introduced. The old soft gums and their menstrua, capable in themselves of dissolving them, were discarded in favour of newer and more complicated processes producing a result more durable and unchangeable under exposure and rough wear.

"The old fashion of ornamenting all articles of furniture, whether of ornament or utility, with carvings, had given place to a more sober style. Broad, unrelieved surfaces, depending on the intrinsic beauty of their material, were found a relief to the eye tired with unravelling the mazes of complex

carving or painted arabesque. The old, soft, badly wearing varnish no longer sufficed for protection and covering of such surfaces; hence the new processes, and, for such utilitarian purposes, superior results. The hard copal gums, hitherto undissolvable, or only partially so, were found to yield entirely upon proper heating and fusion. In 1750 a patent, covering a period of twenty-five years, was granted by the King of France to one Simon Martin, a fan painter, for the process of making varnish from amber, by driving off the succinic acid by means of heat, and the subsequent combination of the residue with oil. From that day to the present, various improvements in this art have gone on uninterruptedly. The field of discovery, the gates to which were opened by such pioneers as Simon Martin, being once entered, the problem of durability, hardness and unchangeableness was soon solved. But with the laying aside of the old recipes, the Italian varnish became a lost art. The knowledge of its composition, naturally confined to the general manufac-

tures, was forgotten. There is no doubt that some of the Cremonese and other makers knew how to prepare it, but, as has been shown, its use was not confined to them. The new ingredients, the copals, amber, etc., would naturally supersede the old as articles of import, and so by degrees those who possessed the secret, for a secret it was, certainly regarded by its latest possessors, would find increasing difficulty in obtaining the old constituents. Moreover, the days of violin-making in Italy were over. England, France and Germany were eager competitors, the stolid build of the first, the gaudy colour of the second, the baked wood of the Mittenwalder, or artist of the Black Forest, and the general cheapness of all, held the market. And so it has happened that the art of the old varnish is not lost, but buried in the dust under the wheel of progress. For two hundred years it was in the hands of a nation; and though now a desire for this forgotten knowledge is confined to only a few, it would be absurd to say that persistent inquiry must fail to unravel a skein of so many ends.

"The third question now presents itself: are there any writings or clues for perusal and examination? There are many. An ingenious Frenchman, who long ago wrote a treatise on varnish, has given the following list of authors who have treated upon this subject:

"Alexis, Piedmontese (real name of author, Hieronymus Ruscellai), 'Secrets des Arts,' Milan, 1550.

"Tiavoranti: 'Miroir Universel des Arts et des Sciences,' Bologna, 1564.

"Anda: 'Recueil Abrége des Secrets Merveilleux; —, 1663.

"Zahn, Jean, 'Oculus Artificialis, etc.; Nuremberg, 1685.

"Morley, C., 'Collections'; London, 1692.

"Coronelli, Vincent, 'Epitome Cosmographique'; Venice, 1693.

"Pomet, 'Histoire Generale des Drogues'; Paris, 1694 (reprinted 1736).

"Buouanni, Phillipe, 'Traite des Vernis'; Rome, 1713.

"Here is a succession of treatises, the earliest written about the time of Gaspar da

Salo, and the latest during that of Stradivarius. Here are hundreds of genuine recipes. Is any one of them the right one? Patience and perseverance are necessary, much fitting of old names to their nomenclatures and many tiresome comparisons, but these once made, the desired result may be obtained, and the new varnish may possess the old coveted lustrous softness and suppleness. And the colours? the brown, the red, and the yellow?—hidden under quaint and obsolete names, they are all indicated by one and another of these authors, and all are soluble in the one vehicle, forming a coloured oil varnish, clear and transparent, which, however long kept, will let fall no sediment.

"There is still another branch of this subject which has never, or very rarely, been specified, and this is the *ground-toning*. In all Italian instruments the wood appears to be permeated with a colour varying in intensity from pale yellow to almost orange. This colour is quite distinct from that of the varnish; for, however faded by exposure and

other causes the latter may be, the ground-tone almost always retains its colour. The violins with red varnish afford the finest examples of this ground-toning. On such its tawny yellow is the most intense, and offers a splendid foil to the superimposed colour, toning and giving life to it. How it was composed or applied, whether as a wash or stain, or as a distinct varnish, none of the authors give any information. But from their miscellaneous lists of the drugs, dye-stuffs and colouring matter common to the Italian markets, it is quite possible that a selection could be made, which would fulfil all the required conditions of colour and stability.

"But though supplied with the ground-tone, another element is needed before the exact reflex of the Italian varnish can be reproduced, and that is the natural colour of the old wood.

"The problem of the old varnish is solvable by anyone who deems the reward worth the trial of patience and perseverance, two elements most effective in the task of interlining the broken sentences of tradition."

CHAPTER XVIII.

A MATHEMATICAL METHOD OF CONSTRUCTING THE OUTLINE.

IN constructing an outline according to the directions now to be given, it is necessary to observe great accuracy in the working, to ensure a satisfactory result.

First draw a perpendicular line 14 inches long, and divide it accurately into 72 equal parts. Then draw at right angles to line, the following:

A line through point No.	8	A—A	See Illustration.
,,	14	B—B	,,
,,	16	C—C	,,
,,	20	D—D	,,
,,	21¼	E—E	,,

A line through point No.	22	F—F	See Illustration.
,,	23	G—G	,,
,,	27	H—H	,,
,,	28	I—I	,,
,,	31	K—K	,,
,,	33	L—L	,,
,,	34	M—M	,,
,,	37	N—N	,,
,,	39	O—O	,,
,,	40	P—P	,,
,,	44½	Q—Q	,,
,,	48	R—R	,,
,,	55	S—S	,,
,,	56	T—T	,,
,,	65	V—V	,,

Open the compasses to the width of 9 parts, put one of the feet at point *b*, and draw the two little curves *aa*.

Open the compasses to the width of 24 parts, place one foot on point 24, and draw the arc *aba*.

Open the compasses to the width of 2 parts, and mark off this distance upon each side of the perpendicular, as at *cc*.

Put one foot of the compasses at *c*, open

to *a*, and describe the curve at *aa*. Do the like on the other side.

Open the compasses to the width of one part, and mark to right and left of No. 14, on the line BB, two points *ee*; make each point the centre of a circle, as in the last paragraph, with radius *e*A, and draw the arcs A D on either side.

On the line L L measure to a point $22\frac{1}{3}$ parts from the perpendicular; put one foot of the compass at each of these points *h* and describe from the centre *h* with a radius of 11 parts, the arcs cutting the lines LL and PP.

In the same way find on line KK 2 points $23\frac{3}{4}$ parts from the perpendicular, and from centres *kk* open the compasses to the point where the arcs last drawn, join the line LL, and continue the arc from the line LL until it meets the line HH.

Open the compasses to the width of 11 parts, place one foot upon point 72, and draw the two small lines *vv*, then place one foot on point 35, and the other on point 72, and draw the curve between these two lines, *vv*.

Open the compasses to the width of 6 parts, and placing one foot on point 55, mark on the line SS the two points *xx*.

Take each point *x* as a centre from *x* to *v* as a radius, and continue the curve from *v* to the line VV.

Open the compasses to the width of 4 parts, place one foot on point 56, mark the 2 points to *zz*.

Take each *z* as a centre, open the compasses to the point where the arcs last drawn joins the line VV, and continue the curve from the line VV to the line RR.

Mark off on line GG two points *oo*, each distant from the perpendicular $24\frac{1}{2}$ parts: open the compasses from point *o* to point *f* on either side, and draw the curve from point *f* to the line FF.

On line II mark on each side of the perpendicular at the distance of $14\frac{2}{3}$ parts from the perpendicular 2 points *mm*; open the compasses from *m* to where the curve joins the line HH, and trace on each side the curve from the last mentioned point to the point *n*.

On line EE, find 2 points 22 parts from the perpendicular on each side *qq*; open the compasses from point *q* to point *p* on line EE, and draw the small curve from *p* to *r* on each side.

Open the compasses from point 20, $16\frac{1}{3}$ parts, and draw the two corners *ss*.

On line QQ open the compasses 24 parts from the perpendicular, and mark on each side the point *bb*; from point *bb*, open the compasses to the point where the line RR is joined by the curve from V to R, and continue the curve from *cc* to *dd*.

On the line NN open the compasses $16\frac{1}{2}$ parts from the perpendicular, and mark on each side the point *t*; open the compasses from point *t* to the point where the line PP is joined by the curve from the point *i* and draw the small curve.

Open the compasses to the width of $19\frac{3}{4}$ parts from point 50, and trace on each side the corner *dd*.

We will now proceed to show how the arch of the violin is made in the direction of the perpendicular.

Take a strip of hard wood, ·2 inches wide, a little longer than the perpendicular, and thick enough not to bend too easily, and find its centre, across which draw a line. Open the large compasses 216 parts, that is, three times the length of the perpendicular, and, having fixed the strip upon the table, draw upon the table a perpendicular line in continuation of the line drawn across the centre of the strip, place one end of the compasses on the perpendicular line upon the strip not too near to the upper edge, and the other point upon the perpendicular drawn upon the table, and draw upon the strip the

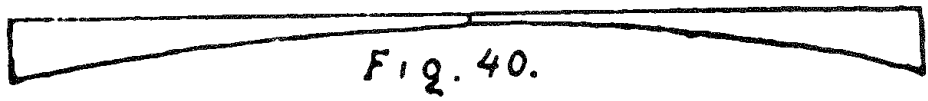


Fig. 40.

arc shown in Fig. 40. When cut away this arc will give the proper arch of the violin.

The length of the / holes is 15 parts; the incision on the inner side of each should be exactly opposite point 40; the head commences opposite point $32\frac{1}{2}$, and the foot ends opposite point $47\frac{1}{2}$. The diameter of the hole at the head is $1\frac{1}{3}$ part, that at the foot $1\frac{3}{4}$ parts; the inner edge of the upper holes should be 9 parts asunder, and the

inner edges of the lower holes 23 parts, as under (see Fig. 41).* For all measurements

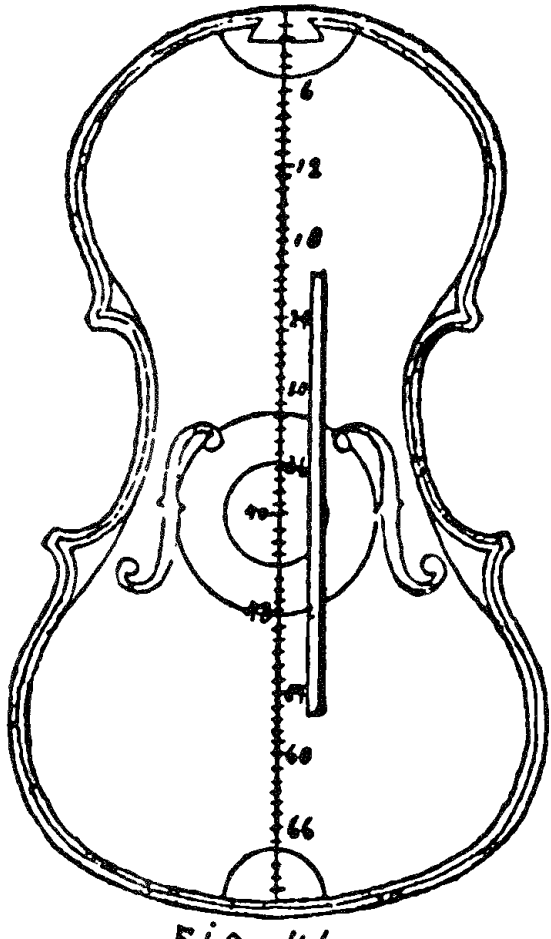


Fig. 41.

required in this method a rule 72 parts long and accurately divided into 72 parts will be found of great service.

THE THICKNESS OF THE BACK.

Point 42 is the starting point for obtaining the proper thickness of the back. With the

* Fig. 41. The position of the bar shown in the above illustration is that found in old Dutch and other early made instruments. The position of the bar in modern instruments will be found under paragraph headed "The Bar."

compasses describe from centre 42 a circle having a radius of $4\frac{1}{3}$ parts; all the wood contained in this circle should be precisely 1 part thick. Then open the compasses 12 parts and draw another circle from the same centre, the wood in which will gradually fall off from 1 part thick at the edge of the inner circle to $\frac{2}{3}$ of a part at the edge of the outer circle. From this line to the side pieces, the thickness will gradually fall away in all directions to $\frac{1}{2}$ part (see Fig. 42).

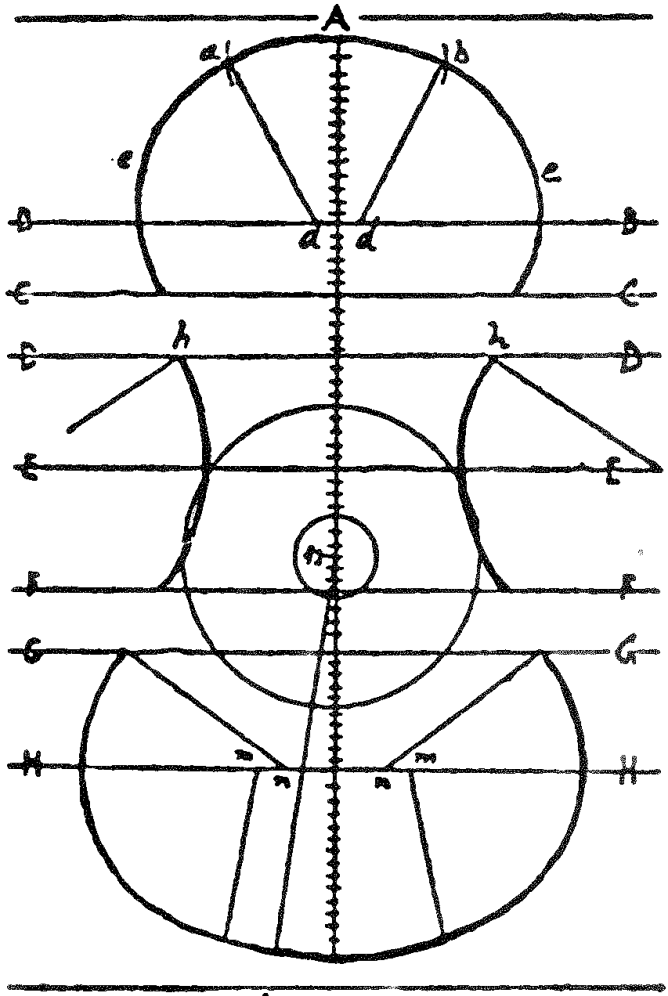


Fig. 42

THE THICKNESS OF THE BELLY.

Point 40 is the point of departure. Open the compasses 4 parts and draw a circle with point 40 as its centre. The wood in this circle must be $\frac{2}{3}$ part thick; open the compasses 9 parts, and draw another circle. Then, as with the back, gradually thin off from the inner circle till the wood at the outer circle is $\frac{1}{2}$ part thick, and from thence thin off again to the sides, where it should be a good $\frac{1}{3}$ part in thickness.

THE BAR.

The bar should be 56 parts long, 1 part thick, 2 parts high in the middle, diminishing gradually to $\frac{2}{3}$ part at the ends. Its position should be parallel to the joint, slightly inclining inwards at the top end, or about — inch in its whole length, and precisely upon the edge of the inner circle. The length of the bar can be readily gauged by measuring off $1\frac{11}{24}$ inch (or 17 lignes French measure) from the top and from the bottom of the belly, the ends of the bass bar should come to these points. The bar should never be

further away from the centre than 8¼ lignes at the top and 9½ lignes at the bottom. The slight slope at the present time given to the bar should be in this proportion also.

THE SOUND-POST.

The sound-post should be ¼ inch in diameter, and placed behind the foot of the bridge. Other particulars respecting this important part have been given in previous chapters.

THE BRIDGE.

The bridge should have 8 parts between outer edge of the feet; its height should be 6½ parts.

THE NECK.

The neck should be 27 parts long from the extremity of the peg-box to the sides of the violin.

CHAPTER XIX.

THE REMAINING ACCESSORIES OF THE VIOLIN.

THESE are the tail-piece, bridge, pegs and strings, which can all be bought of any instrument dealer.

I might give the amateur minute directions for making the first three named, but as I only propose writing on the making of the *violin*, I have expressly omitted matters which merely pertain to the fitting-up of the instrument preparatory to playing. When Luigi Tarisio came to Paris with a number of priceless Italian violins in his possession, he brought nothing *but* the violins—a mere assortment of wooden boxes, as turned out by the master hands of their makers. Those parts which gave a finished *appearance* to the instrument were wanting. An old "Strad" may in its time have had fifty tail-pieces or a score of finger-boards; and however

essential they may be, the parts above-named are only "fittings."

The tail-piece is fastened to the button by a piece of violoncello D string, the knot of which should be firmly tied. Different modes of fastening are adopted. Some tail-pieces have two holes pierced through them and in this case the ends of the cord should be put through and tied so that the knot comes in the groove of the button. Others have the holes pierced in the end of the tail-piece, and a hollow scooped on the under side to allow the knot to stand within the level of the wood so as not to touch the belly. The amateur will select the pattern he likes best.

The strings are an important factor in the production of the tone. They should always be gauged before they are put on. A string gauge can be bought for sixpence, and when the thickness and quality of strings best suited to a violin are ascertained, no variation should be permitted. The following passage from Mr. Davidson's work will be useful to the amateur:

"A good violin string ought to be perfectly cylindrical from one extremity to the other, having a regular thickness throughout, and possess the necessary elasticity. A packet of strings upon being compressed, or bent together, ought not to change colour, or the united parts to break, but to quickly return to their original shape. They ought also to be transparent throughout their entire length, like a thread of glass, and possess no wavy or curled markings. The best second and third strings are of a transparent white; the first not being so white, but perfectly transparent. If the first strings are very white, we may safely assume that they have been made from the intestines of animals which have been prematurely used by the manufacturer. The strings should be now and again oiled, preserved in oil-paper or bladder, and laid aside in covered tin boxes, in a dry place. For oiling the strings a small piece of woollen or other cloth may be used, upon which a few drops of olive or almond-oil are poured. If olive-oil is used, it should be purified by a mixture of lime

and lead, until it is perfectly limpid. The first string should require a tension of 15 lb. to bring it to opera pitch; the second 17 lb.; the third and fourth about the same as the first."

We must carefully observe that the tone of any violin is very perceptibly affected by the size of the strings, as if not in due proportion the one to the other, no uniformity of tone or power will be obtained. The peculiarities of the strings which prove individually suitable to the different classes of violins must also be judiciously studied, as the instruments vary so much in this respect that a string which is perfection to one is destruction to another, but generally speaking, all the ancient instruments require to be lightly strung, in order to effectively evoke their purity of tone and freedom of vibration. If the strings are too thin or light, the tone of such will be weak and feeble, whilst on the contrary, if too thick or heavy, the sounds will be hard and coarse, and an unnecessary strain and pressure will be exerted on the bridge.

Many of the common-class violins require the strings to be *over*-tight ere they can be brought to pitch, causing endless ruptures, but a well-made violin never requires this *over*-straining or tightening in order to bring it to pitch. The fingering also varies on some violins, even although they may be of precisely similar lengths of fingerboard.

From the preceding cursory remarks the reader will easily discern that the strings form an important item in the correct adjustment of the instrument.

The pegs must be accurately adjusted, and when properly fitted the holes should fall so as to allow the strings to run from the hole to the nut without crossing each other. A mixture of finely powdered chalk and rosin will be found the best means of making the pegs move freely and stay where they are left without pressure.

The bridge is ably treated by Ole Bull in his "Violin Notes," and the following passage will afford the necessary information on this point, and also with respect to the sound-post and bow:

THE BRIDGE.

"The position of the bridge should be such as to affect the whole violin equally, and not to favour one tone more than another.

"The centre of the bridge should be directly over the centre line of the top. Whether it should stand slightly backwards or forwards of, or directly on a line drawn across the top from the inner notches of the *f* holes, will depend upon the character of the instrument, and can only be determined experimentally. It should incline towards the tail-piece in order to better withstand the forward pull of the strings in tuning.

"The construction of the bridge has great influence upon the tone. Thinness of the centre of the bridge tends to make prominent any nasal quality or shrillness latent in the instrument. A proper solidity conveys sweetness and compactness, but too great thickness muffles the tone.

"High-built violins mostly require low bridges, and such should be particularly thick at the edges where the strings rest.

"The bridge should be perfectly flat on the side toward the tail-piece. It may be slightly convex on the other side.

"The material of which the bridge is made should be invariably maple. That which is known as the silver-grey maple is preferable to the brown or yellow, as having a more close and elastic grain.

"The incisions in the sides of the bridge should extend each one third of the distance toward the centre. The French model of Aubert, of Mirecourt, though open to some objections in special cases, is one of the best. These bridges are made of excellent wood, and are thick and strong.

"The top of the bridge should be thick. Properly constructed, a bridge may be made quite heavy, and so made it will always convey a rounder and fuller volume of tone. The distance measured along the top between the G and E strings, should be $1\frac{5}{16}$ inch. The G string should be $\frac{1}{4}$ inch above the finger board at its larger extremity; the E string, $\frac{5}{32}$ inch. The average height of the feet of the bridge should be

about $\frac{3}{16}$ inch. The thickness at the base, a scant $\frac{5}{32}$ inch; at the top a full $\frac{1}{16}$ inch. The feet should be $\frac{3}{16}$ inch long.

THE SOUND-POST.

"In general the sound-post should stand from $\frac{1}{8}$ to $\frac{1}{4}$ inch to the rear of the right foot of the bridge. Its outer edge should be in line with the outer edge of the foot. From this position its upper or lower end, or both, may be moved with advantage to secure certain qualities of tone. It should in all cases fit the curves of the top and back absolutely. Moving the lower end toward the centre favours the lower strings. If the lower strings are weak and the upper at all sharp or hard in tone, then a very loose post should be used. If the reverse is the case, a long and tightly fitting sound-post is required. Moving the upper end outward will help all the strings, if the tone before was hard and shrill; but if the upper strings happen to be dull and heavy, then the post should stand a little inside the line of the foot of the bridge, and a little further back.

The sound-post should be made of fine-grained soft spruce. The grain should cross that of the top, as this will prevent the marring of the inner surface of the top in putting the post in and adjusting it.

THE BOW.

"I use a bow longer by two inches than the ordinary standard, a powerful, heavy bow is required for four-string passages and many *tours de force*. The bow, while elastic, should be extremely stiff, so that if dropped upon the strings the rebounds are very rapid. It should have weight to give force to these rebounds, as in many passages the weight of the hand cannot be applied to assist the bow; as in the tremolo, arpeggio and staccato volante. In this last example the bow is thrown upon the strings and runs its length in a series of little rebounds, neither the fingers nor wrist having anything to do with the result. In order to graduate, as it were, the different colours of sound, we favour certain overtones by causing the hair to act

at greater or less distances from the bridge. The nearer we approach the bridge the more the upper overtones, and the nearer the neck the more the lower overtones will be favoured. In the first instance, the resulting tone resembles that of the trumpet; and in the second, that of the horn and clarinet. With a heavy bow, in *forte* passages, only slight assistance is needed from the hand. The wrist is not cramped or stiffened in producing the pressure. In *piano* passages, the little finger should partially sustain the weight, and the stick should be inclined toward the neck, so that only part of the hairs act upon the strings.

"The great stiffness and elasticity of the heavy bow gives a freer, clearer tone than can be produced by one of a lighter and more sluggish nature.

"The length of the bow is 2 ft. 6 inches, the length of the hair, 2 ft. 4 inches. The number of hairs is about 160. Half the hairs are put in one way, the other half the other. It is known that the hairs, as seen when magnified have little saw-like teeth running in

one direction. By thus dividing the hairs, they present the same friction on either the up or down stroke. The best hair is from Normandy. It should be round and even, and not flat in places."

The importance of a suitable bridge is paramount, and to further aid the amateur in its selection I append the following quotation from Mr. Davidson:

"The bridge plays a far more important part than is generally attributed to it. Its incisions and form have a great influence upon the quality of the instrument. It merits, therefore, all our attention. If we take a piece of wood, cut like a bridge, and glue it upon a violin, the instrument nearly loses its sound. It gets a little better if we form feet to the bridge; if we make lateral incisions in it, the sound improves, which improvement increases gradually until the bridge assumes the ordinary form. It is an astonishing thing that by trial we gradually arrive at the form of bridge usually adopted, and which appears to be better than any other. A multitude of trials have been made

before this important piece arrived at perfection. Everything has led to this result, that we cannot depart from the established form without detracting greatly from the quality of the instrument. Bridges have been made of deal with their fibres perpendicular and parallel to the belly, but the sound was found to be altered. The size and shape of the openings have been altered, but the beauty of the instrument has always been impaired. Let us examine the movement of the molecules of the bridge. If we take a plain bridge with two feet and a single string, the movement is tangential, parallel to the face of the bridge. If we make two incisions in it, the nature of the movement changes, and the sand is seen to move in several directions at once, while the bridge itself experiences movements of oscillation, and its molecules appear to execute vibrations in a direction normal to the belly. The effect appears to be to confirm the normal movements of the tables. The bar to which these oscillations are imparted, produces in the belly a similar movement over

its entire surface, and prevents it from dividing into ventral segments by transversal nodal lines. All the parts of the instrument enter at once into vibration. Let us see how we can modify the effects of the bridge, by interfering a little with its oscillations. By placing a mute on the bridge the sound is almost null, and the bridge seems no longer to vibrate. It even appears to arrest the vibrations of the other parts of the instrument. The mute arrests its oscillations, and no longer produces the vibration of the belly. If we clamp the right foot of the bridge, the sound is weakened, but not to so great an extent as with a mute. On the other hand, if we repeat the experiment with the left foot, which ought to communicate its movement to the *bar*, the sound is incomparably weaker. It is evident that the left foot of the bridge produces the shocks which occasion the movement of the bar and of the belly."

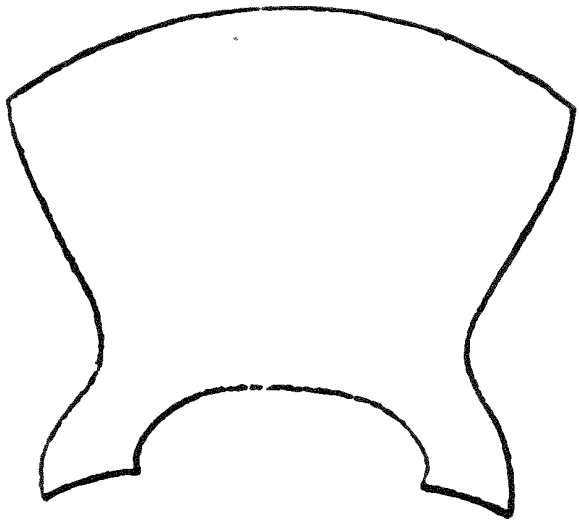


FIG. 43. BRIDGE OF A VIOL WITH SEVEN STRINGS, THE BODY OF WHICH IS NOT CUT OUT EXCEPT AT THE TWO SIDES.

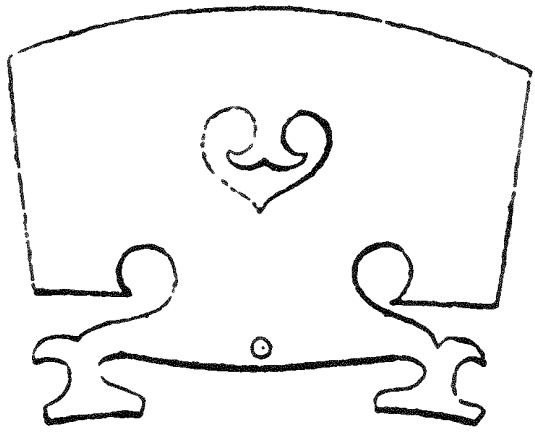


FIG. 45. BRIDGE OF A SMALL-PATTERN VIOLIN OF THE ANCIENT SCHOOL OF ANTHONY AMATI

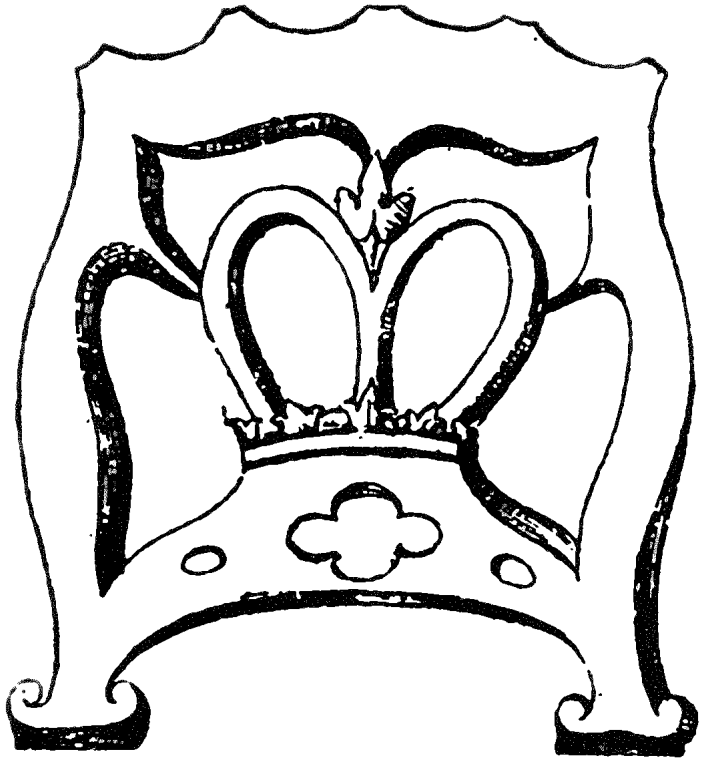


FIG. 44. BRIDGE OF A VIOL WITH FIVE STRINGS CUT THROUGH IN EVERY PART.

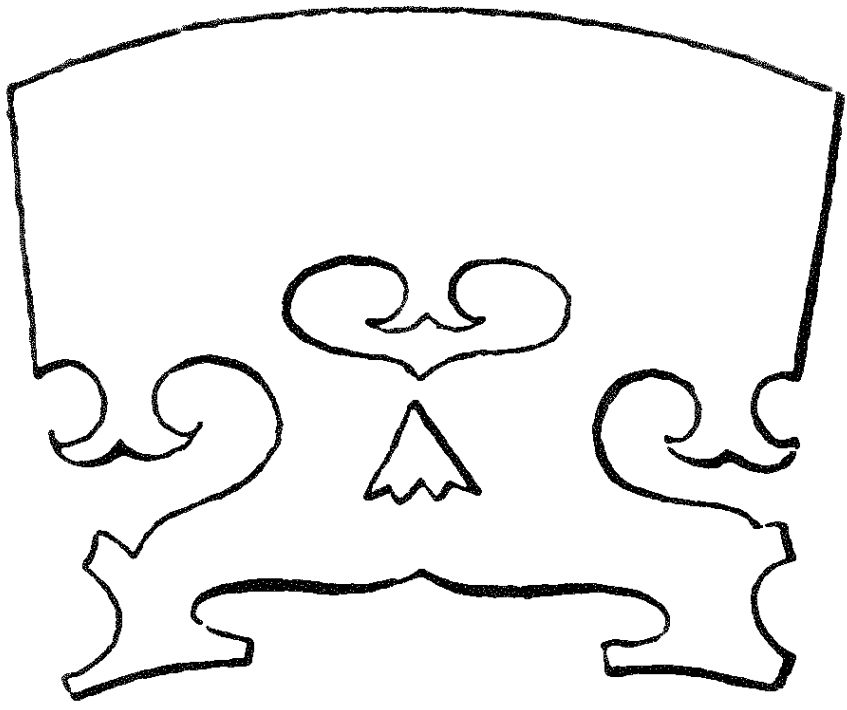


FIG. 46. BRIDGE OF A NICHOLAS AMATI.

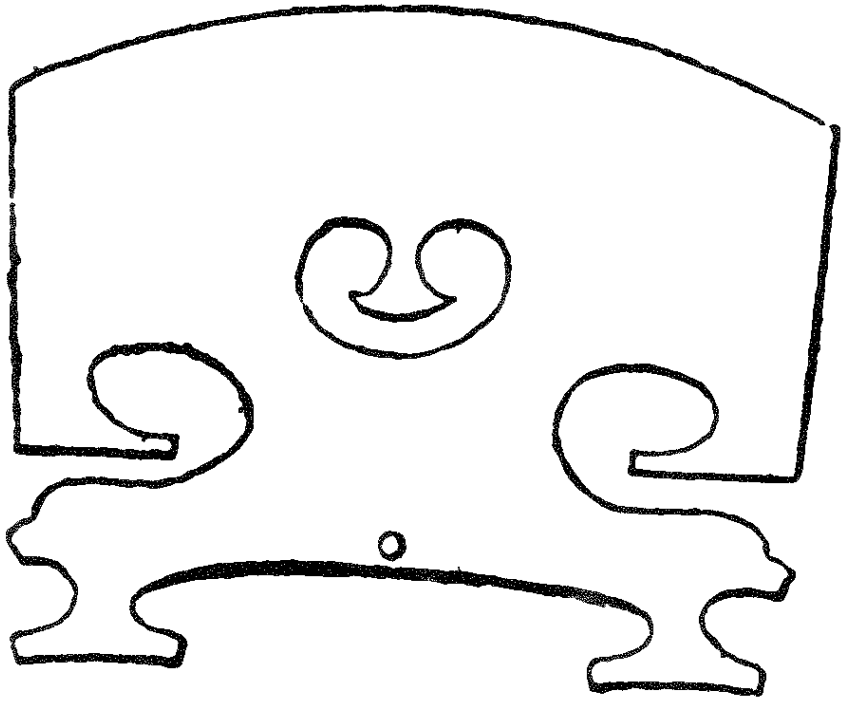


FIG. 47. BRIDGE OF A STRADIVARIUS.

CATALOGUE B

CATALOGUE OF
BOOKS ON MUSIC

Literature covering every branch of Music, Biographical and Critical Studies of Composers, Histories of Musical Instruments, also valuable Textbooks and Tutors for Teachers and Students of the Piano, Organ, Violin, Cello, Theory, Singing, etc.

All prices are net and postage extra

Published by

WILLIAM REEVES Bookseller Limited

1a Norbury Crescent, London, S.W.16

Telephone: POLlards 2108

BOOKS ABOUT MUSIC

ÆSTHETICS OF MUSICAL ART, or The Beautiful in Music. By DR. FERDINAND HAND. Translated from the German by WALTER E. LAWSON, *Mus.Bac. Cantab, etc.* Third Edition. Crown 8vo, cloth, 16/–.

THE BOWED HARP. A Study of the History of Early Musical Instruments. By OTTO ANDERSSON, *Ph.D., President of the Swedish University at Abo.* From the Original Swedish Edition, revised by the Author. The Translation Edited with additional footnotes by KATHLEEN SCHLESINGER. 116 Illustrations, Bibliography and Index. 340 pages, 8vo, cloth, 30/–.

CATECHISM OF MUSICAL HISTORY AND BIOGRAPHY. With Especial Reference to the English School. By F. J. CROWEST. 187 pages. Post 8vo, cloth, 5/–; paper, 2/6.

CHAMBER MUSIC AND ITS MASTERS IN THE PAST AND IN THE PRESENT. By DR. N. KILBURN. New Edition, revised, and with additional chapters by GERALD ABRAHAM. With Plates and Music Illustrations. Crown 8vo, cloth, 18/–.

CHRONOMETRICAL CHART OF MUSICAL HISTORY. Presenting a Bird's Eye View from the Pre-Christian Era to the XXth Century. By C. A. HARRIS, *A.R.C.O.*, etc. 5/–

THE DEEPER SOURCES OF THE BEAUTY AND EXPRESSION OF MUSIC. By JOSEPH GODDARD. With many Musical Examples. Crown 8vo, cloth, 10/–.

ELIZABETHAN VIRGINAL MUSIC AND ITS COMPOSERS. By M. H. GLYN. Second Edition, Revised, 1934. Demy 8vo, cloth, 21/-.

The author has studied all virginal manuscripts and collated a considerable part of their contents. A full index of these manuscripts is included, together with detailed references as to where they are located. Besides accounts of the lives of Byrd, Bull, Gibbons and Farnaby, there are notes concerning 26 lesser-known composers for the virginals. An explanation of Elizabethan music terms forms part of the book.

THE GIPSY IN MUSIC. By FRANZ LISZT. Translated by EDWIN EVANS.

Gipsy and Jew, Two Wandering Races.
Gipsy Life in Relation to Art.
Gipsy Music and Musicians.

The result of the Author's long Experience and Investigations of the Gipsies and their Music. With Portraits of the Author etc. Demy 8vo, cloth, 30/–.

HISTORY OF RUSSIAN MUSIC. By M. MONTAGU-NATHAN. The Rise and Progress of the Russian School of Composers. With a Survey of their Lives and a Description of their Works. Frontispiece. 2nd Edition, Revised. Crown 8vo, cloth, 21/-.

HISTORY OF THE HARP. From the Earliest Period. By JOHN THOMAS (*Pencerdd Gwalia*). 8vo, paper covers, 6/-.

HISTORY OF THE TRUMPET OF BACH AND HANDEL. By WERNER MENKE. Translated by GERALD ABRAHAM. 5 Plates and a Supplement of Music. Crown 8vo, cloth, 18/-.

This history of the trumpet from its earliest use as an artistic instrument, gives special reference to its employment by Bach and Handel. The correct modern performance of the old parts is discussed, and a description of a new instrument invented by the author for this purpose is included.

HOW TO LISTEN TO GOOD MUSIC and Encourage the Taste in Instrumental and Vocal Music. With many useful Notes for Listener and Executant. By K. BROADLEY GREENE. Complete, cloth, 8/6, or in two books, paper, 2/6 each.

INTRODUCTORY SKETCH OF IRISH MUSICAL HISTORY. By W. H. GRATTAN FLOOD. A compact Record of the Progress of Music in Ireland during 1,000 Years. Portraits. Crown 8vo, cloth, 10/6.

MAKERS OF THE HARPSICHORD AND CLAVICHORD 1440–1840. By DONALD BOALCH, M.A. 32 Plates, 208 pp., 4to, cloth, 84/-.

MUSIC IN THE HIRSCH LIBRARY (Part 53 of the Catalogue of Printed Music in the British Museum), by A. HYATT KING and C. HUMPHRIES, 1951. Published for the Trustees of the British Museum. This catalogue, prepared by the Museum staff, lists also a considerable number of works which were either not included in the original four volume catalogue by P. Hirsch, or were acquired later. 4to, cloth, 42/-.

MUSIC OF THE MOST ANCIENT NATIONS, Particularly of the Assyrians, Egyptians and Hebrews; with special reference to Discoveries in Western Asia and in Egypt. By CARL ENGEL, 1864 (reprinted 1929). About 100 illustrations and many music examples. Demy 8vo, cloth, 42/-.

MUSICAL DEVELOPMENT, or Remarks on the Spirit of the Principal Musical Forms. An Æsthetical Investigation, in which an Attempt is made to show the Action in Music of certain Laws of Human Expression; to point out what are the Spiritual Aims of the Chief Forms of Composition, and the Broad Principles upon which they should be Constructed. By JOSEPH GODDARD. 8vo, cloth, 10/-.

NATIONAL MUSIC OF THE WORLD. By H. F. CHORLEY. Edited by H. G. HEWLETT. Many Music Examples. Third Edition. Crown 8vo, cloth, 15/–.

OLD ENGLISH PSALMODY. By W. T. BROOKE. First Series: From the Accession of Edward VI to the Restoration of Charles II, 1547–1660. Second Series: Psalmists from 1660–1800. Third Series: unpublished. Crown 8vo, paper covers, 3/6 each series.

OPERA STORIES OF TO-DAY AND YESTERDAY, Retold Act by Act (including Wagner's "The Ring" Operas). By EDMONDSTOUNE DUNCAN. Crown 8vo, cloth, 6/6.

PAN PIPES, THE SPIRIT OF MUSIC in Nature, Art and Legends, from East to West. Sixteen Articles for General Reading, with Drawings of Eastern Musical Instruments. By G. P. GREEN. Crown 8vo, cloth, 7/6.

THE PLACE OF SCIENCE IN MUSIC. By H. SAINT-GEORGE. For Advanced Students of Harmony. With music examples. 8vo, 2/6.

POLISH MUSIC AND CHOPIN, ITS LAUREATE. A Historical Account from 995 to the Present Time, including Chopin and his Works. By E. RAYSON. Four Portraits. Square 8vo, boards, 6/–, paper covers, 3/6.

RISE AND DEVELOPMENT OF MILITARY MUSIC. By Dr. H. G. FARMER. With Illustrations of Early Instruments and Music Examples, and Short Biographical Notices of all the Staff Bandmasters. Crown 8vo, cloth, 15/–.

RISE AND DEVELOPMENT OF OPERA. Embracing a Comparative View of the Art in Italy, Germany, France and England. By JOSEPH GODDARD. Showing the Cause of the Falling Back of the English School in the Modern Period, and the Compensation which that Involved. Numerous Music Examples, Portraits and Facsimiles. Crown 8vo, cloth, 16/–.

SOME ASPECTS OF CHINESE MUSIC AND SOME THOUGHTS AND IMPRESSIONS ON ART PRINCIPLES IN MUSIC. By G. P. GREEN. Post 8vo, cloth, 6/–, paper covers, 3/6.

SOME ASPECTS OF GIPSY MUSIC. By D. C. PARKER. Post 8vo, cloth, 6/–, paper covers, 3/6.

SOME FAMOUS SYMPHONIES, How to Understand Them. With their Story and Simple Analysis. Numerous Portraits. By J. F. PORTE. Dealing with Symphonies of Beethoven, Berlioz, Borodin, Brahms, Chausson, Dvorak, Elgar, Cesar Franck, Haydn, Mendelssohn, Mozart, Schubert, Stanford and Tchaïkovsky. Complete in cloth, 8/–, or in 2 separate parts, paper, 2/6 each.

THE SOURCES OF KEYBOARD MUSIC IN ENGLAND. By CHARLES VAN DEN BORREN, translated by J. E. Matthew. 378 pages, 237 music examples. Crown 8vo, cloth, 21/–.

A standard European work of musical scholarship and one which is of vital interest to all students of keyboard music of the 16th and early 17th centuries.

The collection of keyboard music which naturally provides the basis for this study is the Fitzwilliam Virginal Book, and detailed treatment, copiously illustrated with music examples, is given to the various figures—melodic, rhythmic, and harmonic—in this music and to the forms and styles cultivated by composers for the Virginal. Originally published in England in 1915, this book remains the only thorough study of its type, illuminating a most important branch of English and European music.

STORY OF INDIAN MUSIC AND ITS INSTRUMENTS. A Study of the Present and a Record of the Past. Together with Sir William Jones' celebrated Treatise on the Musical Modes of the Hindus. With 19 Plates, chiefly of Instruments, 7 Music Illustrations and a Map. By ETHEL ROSENTHAL, *A.R.C.M.*, *F.R.G.S.* Crown 8vo, cloth, 30/–.

THE STORY OF MINSTRELSY. By EDMONDSTOUNE DUNCAN. The whole body of Secular Music that has stood the test of time and which can be called national. Early Gleemen, the Minstrels (church and social), Troubadours, the Tudor period, the great Elizabethanists, etc. Pp. xvi, 337, 25/–.

THE STORY OF MUSICAL FORM. By C. LUCAS. The General Principles of the Art of Composition and how they have been arrived at; explaining the development of the scale, of tonic and dominant, cadences, phrases and motives, counterpoint, canon and fugue, harmony, style, song form, variations, sonata form. Pp. xvi, 226, 25/–.

STRINGED INSTRUMENTS OF THE MIDDLE AGES. Their Evolution and Development. By HORTENSE PANUM. English edition, revised and edited by JEFFREY PULVER. A detailed and comprehensive history, with illustrations, of the evolution of the mediæval stringed musical instruments from their first appearance in the records of the earliest civilisations, through their gradual development in the Greek, Roman and Christian eras down to more recent times. 400 illustrations. 8vo, cloth, pp. ix, 511, 63/–.

TREATISE ON BYZANTINE MUSIC. By S. G. HATHERLEY. 208 Music Examples. 162 pages, 4to, cloth, 25/–.

There are upwards of 50 unabbreviated musical pieces, ancient and modern, from Greek, Russian, Turkish and Egyptian sources, given and fully analysed.

TRIBAL MUSIC AND DANCING IN THE SOUTHERN SUDAN, at Social and Ceremonial Gatherings. A descriptive account of the music, rhythm, etc., from personal observation. By Dr. A. N. TUCKER. 5 illustrations, 61 music examples illustrating the dances, songs and rhythm. 57 pages, demy 8vo, cloth, 10/6.

THE TROUBADOUR AS MUSICIAN, Past and Present. By C. A. HARRIS. Cloth, 5/–; paper, 2/6.

THE WORLD'S EARLIEST MUSIC. Traced to its Beginnings in Ancient Lands. By collected Evidences of Relics, Records, History and Musical Instruments, from Greece, Etruria, Egypt, China, through Assyria and Babylonia to the Primitive Home, the Land of Akkad and Sumer. By HERMANN SMITH. With sixty-five Illustrations, nearly 400 pages. Crown 8vo, cloth, 21/–.

OUT-OF-PRINT BOOKS.

Positive Microfiches can be supplied of the following books where the printed editions are out of print They must be used in conjunction with a reader (usually found in large libraries).

HISTORY OF THE VIOLONCELLO, Viola da Gamba, etc., with Biographies of all the Most Eminent Players, 1915. By E. VAN DER STRAETEN, 50/–.

BOOKS ABOUT MUSICIANS AND THEIR WORKS

BRITISH MUSICAL BIOGRAPHY. A Dictionary of Musical Artists, Authors and Composers born in Britain and its Colonies. By J. D. BROWN and S. S. STRATTON. 8vo, cloth, 21/–.

Despite its age, this book is still of importance because it contains particulars of many musicians not listed elsewhere.

FROM MENDELSSOHN TO WAGNER. Being the Memoirs of J. W. Davison, forty years Music Critic of *The Times*, compiled by his son, HENRY DAVISON, from Memoranda and Documents. With 52 portraits of Musicians and Important Letters (previously unpublished) of Mendelssohn, Berlioz, Gounod, Jullien, Macfarren, Sterndale Bennett. etc. Index, 539 pages, 8vo, cloth, 42/–.

MUSIC AND MUSICIANS. Essays and Criticisms, by ROBERT SCHUMANN. Translated, Edited and Annotated by F. R. RITTER. Two volumes, crown 8vo, cloth, 35/– each.

Schumann's literary gifts and interests almost equalled his musical ones. From boyhood he was drawn to literary expression, and his writings on music belong to the best among the romantic literature of the 19th century. The same fire, poetry, directness of expression, the same inventiveness we love in his compositions, also animates his prose.

MUSICAL MEMORIES. By WILLIAM SPARK, *Mus.Doc.* (*late Organist of the Town Hall, Leeds*). Third Edition. With sixteen Portraits. Thick crown 8vo, cloth, 10/–.

REEVES' DICTIONARY OF MUSICIANS. Biographical Accounts of about 2,500 Noteworthy Musicians of the Past and Present. Edited by EDMUNDSTOUNE DUNCAN and Others. Crown 8vo, cloth, 7/6, paper covers, 4/–.

SKETCHES OF ENGLISH GLEE COMPOSERS. Historical, Biographical and Critical. From about 1735–1866. By D. BAPTIE. Post 8vo, cloth, 10/–.

SOME MUSICAL RECOLLECTIONS OF FIFTY YEARS. By RICHARD HOFFMAN. With Memoir by MRS. HOFFMAN. Illustrated with many Portraits. Crown 8vo, cloth, 10/–.

An interesting book of reminiscences by a prominent Anglo-American pianist and composer (1831–1909). He studied under Pleyel, Moscheles, Rubinstein and Liszt, and became a concert pianist in New York, and also toured with Jenny Lind. Hoffman composed and published many pianoforte pieces of the brilliant kind in vogue at the time.

STUDIES IN RUSSIAN MUSIC. Critical Essays on the most important of Rimsky-Korsakov's operas, Borodin's "Prince Igor," Dargomïzhsky's "Stone Guest," etc.; with chapters on Glinka, Mussorgsky, Balakirev and Tschaïkovsky. By GERALD ABRAHAM. 92 music examples. 350 pages, demy 8vo, cloth, 25/–.

ON RUSSIAN MUSIC. Critical and Historical Studies of Glinka's Operas, Balakirev's Works, etc. With chapters dealing with Compositions by Borodin, Rimsky-Korsakov, Tchaïkovsky, Mussorgsky, Glazunov, and various other Aspects of Russian Music. By GERALD ABRAHAM. With Frontispiece and 88 Music Examples. Demy 8vo, cloth, 21/–.

The above two books complement one another, and together form a valuable survey of Russian music of the period 1836 to 1910. The operas of Rimsky-Korsakov are studied fully, also Borodin's "Prince Igor", Glinka's operas and Balakirev's music. Gerald Abraham is Professor of Music at Liverpool University, and is the chief English authority on Russian music.

THE SYMPHONY WRITERS SINCE BEETHOVEN. Critical Essays on Schubert, Schumann, Gotz, Brahms, Tchaïkovsky, Bruckner, Berlioz, Liszt, Strauss, Mahler, Mendelssohn, Saint-Saens, etc. By FELIX WEINGARTNER. Translated by A. BLES. Twelve Portraits. *Second Impression.* With Chapter added by D. C. PARKER on Weingartner's Symphony No. 5. Crown 8vo, cloth, 16/–.

WITH THE GREAT COMPOSERS. A Series of Pen Pictures, exhibiting in the form of Interviews the Personal Characteristics as Artists of the World's great Tone Poets. By GERALD CUMBERLAND. Portraits. Cr. 8vo, cloth, 10/–.

Deals with Chopin, Haydn, Mendelssohn, Paganini, Beethoven, Handel, Rossini, Schubert, Liszt, Berlioz, Mozart, Wagner Tchaïkovsky, Cherubini, Wolf, Borodin, Schumann, Sullivan.

HOW TO PLAY BACH'S 48 PRELUDES AND FUGUES. A Guide Book for the use of Piano Students as an aid to the Unravelling and Interpretation of these Masterpieces, ensuring a more Intelligent Keyboard Rendering. By C. W. WILKINSON. Crown 8vo, cloth, 10/–.

OUTLINE ANALYSIS OF BACH'S FORTY-EIGHT FUGUES. By BROOK SAMPSON. 3/–.

BALFE, HIS LIFE AND WORK. By WM. ALEXANDER BARRETT. Over 300 pages. Crown 8vo, cloth, 21/–.

BEETHOVEN. By RICHARD WAGNER. With a Supplement from the Philosophical Works of Arthur Schopenhauer. Translated by EDWARD DANNREUTHER. Third Edition. Crown 8vo, cloth, 16/–.

BEETHOVEN AND HIS PIANO WORKS (Sonatas, Concertos, Variations, etc.). Descriptive and Analytic Aid to their Understanding and Rendering. By HERBERT WESTERBY. With list of Principal Editions and Bibliography. 3 illustrations, 45 music examples. Crown 8vo, cloth, 10/–.

BEETHOVEN'S PIANOFORTE SONATAS Explained for the Lovers of the Musical Art. By ERNST VON ELTERLEIN. Translated by E. HILL, with Preface by ERNST PAUER. Revised Edition (the Seventh issue). With Portrait, and View of Beethoven's House. Crown 8vo, cloth, 10/–.

NOTES ON THE INTERPRETATION OF 24 FAMOUS PIANO SONATAS BY BEETHOVEN. By J. ALFRED JOHNSTONE. Portrait, crown 8vo, cloth, 12/6.

BEETHOVEN'S PIANO SONATAS. A Descriptive Commentary on the Sonatas in the light of Schnabel's Interpretations; giving an æsthetic Appreciation of each Sonata, with an Outline of the Development of the Sonata Form in Beethoven's hands. With a Biographical Sketch of Schnabel and an account of his activity as an executant, composer and teacher. By RUDOLF KASTNER. Translated by GERALD ABRAHAM. 55 pages, post 8vo, paper, 3/6.

A CRITICAL STUDY OF BEETHOVEN'S NINE SYMPHONIES, with a Few Words on His Trios and Sonatas, a Criticism of "Fidelio" and an Introductory Essay on Music. By HECTOR BERLIOZ. Translated from the French by EDWIN EVANS. Portrait. Crown 8vo, cloth, 21/–.

BEETHOVEN'S NINE SYMPHONIES Fully Described and Analysed. A complete Account of Thematic Material and auxiliary Motives, an Analytical Chart of each Movement, full Technical Descriptions of Developments, Particulars of Formal and Rhythmic Features, Epitomical Tables, etc. Illustrated by 637 Musical Examples. By EDWIN EVANS. Cloth, Vol. I (Nos. 1 to 5), 21/–. Vol. II (Nos. 6 to 9), out of print.

BEETHOVEN'S SYMPHONIES in their Ideal Significance, Explained by ERNST VON ELTERLEIN. Translated by FRANCIS WEBER. With an Account of the Facts Relating to Beethoven's Tenth Symphony. By L. NOHL. Second Edition. Crown 8vo, cloth, 10/–.

BEETHOVEN'S SYMPHONIES Critically Discussed by ALEXANDER TEETGEN. With Preface by JOHN BROADHOUSE. Second Edition. Post 8vo, cloth, 6/6.

THE CRITICAL WRITINGS OF HECTOR BERLIOZ

A CRITICAL STUDY OF BEETHOVEN'S NINE SYMPHONIES, with a few Words on his Trios and Sonatas, and a Criticism of Fidelio. Portrait. Crown 8vo, cloth, 21/–.

GLUCK AND HIS OPERAS, with an Account of their Relation to Musical Art. Portrait. Crown 8vo, cloth, 18/–.

MOZART, WEBER AND WAGNER, with various other Essays on Musical Subjects. Crown 8vo, cloth, 21/–.

The above three books form a full and readable translation by Edwin Evans of the justly celebrated critical writings of Hector Berlioz issued under the title of "A Travers Chant."

BORODIN THE COMPOSER AND HIS MUSIC. A Descriptive and Critical Analysis of his Works and a Study of his Value as an Art Force. With many references to the Russian Kouchka Circle of Five—Balakirev, Moussorgsky, Cesar Cui, Rimsky-Korsakov, and Borodin. By GERALD ABRAHAM. With music examples and 5 Portraits. Crown 8vo, cloth, 21/–.

LIFE OF JOHANNES BRAHMS. By FLORENCE MAY. Second Edition, Revised. Two Volumes, demy 8vo, cloth, 42/–.

This work still remains the most comprehensive single work on the composer published. It is based on material gathered at first hand during the course of several visits to the Continent, and its value as a personal document is enhanced by the author's own recollections and impressions of Brahms, which were the result of personal contact with and actual study under the great master.

HISTORICAL, DESCRIPTIVE AND ANALYTICAL ACCOUNT OF THE ENTIRE WORKS OF BRAHMS. By EDWIN EVANS. The Works are treated in the order of their Opus Numbers, and every Composition is dealt with in detail. Complete in 4 volumes with altogether 1,500 pages and over 1,000 Music Examples and Tables, as follows:

CHAMBER AND ORCHESTRAL WORKS OF BRAHMS. First Series to Op. 67. By EDWIN EVANS. 35/–.

CHAMBER AND ORCHESTRAL WORKS OF BRAHMS. Second Series, Op. 68 to the End. By EDWIN EVANS. 35/–.

PIANO AND ORGAN WORKS OF BRAHMS. By EDWIN EVANS. 35/–.

VOCAL WORKS OF BRAHMS. By EDWIN EVANS. 42/–.

LIFE OF CHERUBINI. By F. J. CROWEST. (Great Musicians Series.) Crown 8vo, cloth, 6/–.

CHERUBINI. Memorials illustrative of his life. By E. BELLASIS. Crown 8vo

CHOPIN'S GREATER WORKS (Preludes, Ballads, Nocturnes, Polonaises, Mazurkas). How they should be Understood. By J. KLECZYNSKI. Including Chopin's Notes for a "Method of Methods." Translated by N. JANOTHA. Second Edition. With music examples. Crown 8vo, cloth, 8/6.

HOW TO PLAY CHOPIN. The Works of Chopin, their Proper Interpretation. By J. KLECZYNSKI. Translated by A. WHITTINGHAM. Sixth Edition. Music Illustrations. Crown 8vo, cloth, 7/6.

Contains the cream of Chopin's instructions to his own pupils. To admirers of Chopin and players of his music we should say this book is indispensable.

CHOPIN AS REVEALED BY EXTRACTS FROM HIS DIARY. By COUNT TARNOWSKI. Translated from the Polish by N. JANOTHA. With eight Portraits. Crown 8vo, paper covers, 5/–.

In the above notes Chopin alludes to many of his compositions as well as relating the conditions under which they were written.

FREDERIC CHOPIN, Critical and Appreciative Essay. By J. W. DAVISON. 8vo, 3/6.

CHOPIN THE COMPOSER AND HIS MUSIC. An Analytic Critique of Famous Traditions and Interpretations, as exhibited in the Playing of Great Pianists, Past and Present. By JOHN F. PORTE. With portrait. 193 pages, crown 8vo, cloth, 10/6.

HANDBOOK TO CHOPIN'S WORKS. A Detailed Account of all the Compositions of Chopin. Short Analyses for Piano Student and Critical Quotations from Writings of Well-known Musical Authors. Chronological List of Works, etc. By G. C. A. JONSON. Second Edition. Crown 8vo, cloth, 18/–.

"Here in one compact volume is all that is necessary to know about Chopin and his works except by the leisured enthusiast."

HANDEL'S MESSIAH. The Oratorio and its History. A Handbook of Hints and Aids to its Public Performance, with useful Notes on each Movement, as well as Numerous References and much Original Information. By J. ALLANSON BENSON. Boards, 6/6; paper, 4/–.

LISZT, COMPOSER, AND HIS PIANO WORKS. Descriptive Guide and Critical Analysis, written in a popular and concise style. By HERBERT WESTERBY, *Mus.Bac., Lon., etc.* 5 illustrations, 24 music examples. 336 pp., crown 8vo, cloth, 18/–.

ANALYSIS OF MENDELSSOHN'S ORGAN WORKS. A Study of their Structural Features. By JOSEPH W. G. HATHAWAY, *Mus.B. Oxon.* 127 Music Examples. Portrait and Facsimiles. Crown 8vo, cloth, 12/6.

HOW TO INTERPRET MENDELSSOHN'S "SONGS WITHOUT WORDS" (the celebrated "Lieder ohne Worte"). A Readable and Useful Guide for All. Gives the Piano Students helpful Insight into the first Principles of Form in Music. By CHARLES W. WILKINSON. With portrait and facsimile of MS. Crown 8vo, cloth, 6/–; paper, 3/6.

MOZART: a Commemorative Address read before the Positivist Society. By V. LUSHINGTON. 8vo, 2/–.

Mozart and Religion.

MOZART AND THE SONATA FORM: A Companion Book to any Edition of Mozart's Piano Sonatas, including an Analysis of the Form of each Movement, with Notes upon Treatment and Tonality, by J. RAYMOND TOBIN, *Mus.B.* Crown 8vo, cloth, 15/–.

THE SONATA: Its Form and Meaning, as Exemplified in the Piano Sonatas by Mozart. A Descriptive Analysis, with Musical Examples. By F. HELENA MARKS. 8vo, cloth, 16/–.

QUESTIONS ON MOZART'S SONATAS. By F. HELENA MARKS. Aid and Companion to the Study of the Author's work, "The Sonata: Its Form and Meaning as Exemplified in the Piano Sonatas by Mozart." Paper covers, 2/6.

PURCELL. By WILLIAM H. CUMMINGS, *Mus.Doc.* (Great Musicians Series).

RACHMANINOFF. An Exhilarating Biographical Study of this Genius of the Keyboard. By WATSON LYLE. Preface by LEFF POUISHNOFF. Two Portraits and List of Works. Crown 8vo, cloth, 18/–.

FRANZ SCHUBERT, Man and Composer. A Vivid Story of a Charming Personality. By C. WHITAKER-WILSON. With Original Translations into English of eight Well-known Schubert Songs, together with the Music for the Voice. Portraits and Illustrations of Schubert and his Friends. Crown 8vo, cloth, 15/–.

HENRY SMART'S ORGAN COMPOSITIONS ANALYSED. By J. BROADHOUSE. Crown 8vo, cloth, 5/–.

WAGNER'S TEACHINGS BY ANALOGY. His Views on Absolute Music and of the Relations of Articulate and Tonal Speech, with Special Reference to "Opera and Drama." By EDWIN EVANS. Crown 8vo, cloth, 6/–; paper, 3/6.

WAGNER'S Ring des Nibelungen. The Story of Wagner's "Ring" for English Readers. By N. KILBURN, *Mus.Bac.*, *Cantab.* Crown 8vo, paper, 2/–.

OPERA AND DRAMA. By RICHARD WAGNER. Translated into English. Opera and the Essence of Music, The Stage-Play and Dramatical Poetic Art in the Abstract, Poetry and Music in the Drama of the Future. 45/–.

HOW TO UNDERSTAND WAGNER'S "RING OF THE NIBELUNG." Being the Story and a Descriptive Analysis of the "Rheingold," the "Valkyr," "Siegfried" and the "Dusk of the Gods." With Musical Examples of the Leading Motives of Each Drama. By GUSTAVE KOBBE. Together with a Sketch of Wagner's Life. By N. KILBURN, *Mus.Bac. Cantab.* Seventh Edition. Crown 8vo, cloth, 12/6.

Description and analysis go hand in hand with the narration of the story. Musical examples are given as aids to the identification of the leading motives and an index makes it easy for any reader to turn up any particular motive instantly.

ORCHESTRAL

THE CONDUCTOR, THE THEORY OF HIS ART. By HECTOR BERLIOZ. Translated by J. BROADHOUSE. With 41 Diagrams and Examples. Crown 8vo, cloth, 8/6; paper covers, 5/–.

HANDBOOK ON THE TECHNIQUE OF CONDUCTING. By SIR ADRIAN BOULT. Seventh Edition, revised. 5/–.

INSTRUMENTS AND ART OF THE ORCHESTRA. An Introductory Study. With Table showing Range of each Instrument. By P. W. DE COURCY-SMALE, *Mus.Bac.* 8vo, boards, 6/–.

METHOD OF INSTRUMENTATION. How to Write for the Orchestra and Arrange an Orchestral or Band Score. Illustrated with Music Examples and various large folding Charts and Index. By EDWIN EVANS. Demy 8vo, cloth, two volumes.
Vol. I. How to Write for Strings, Arrangement of Scoring and Preparation of Parts. With Charts. 10/–.
Vol. II. How to Write for Wood, Brass and Drums, and Arrange a Band Score. With large folding Charts. 10/–.

NOTES ON CONDUCTORS AND CONDUCTING. By T. R. CROGER, *F.R.G.S.*, *F.Z.S.*, also the Organising and Conducting of Amateur Orchestras, with three full-page Illustrations of the various "Beats" and Plan of the Orchestra. Revised and Enlarged. Crown 8vo, boards, 6/–.

ON CONDUCTING. By RICHARD WAGNER. Translated by EDWARD DANNREUTHER. A Treatise on Style in the Execution of Classical Music. Fourth Edition. Crown 8vo, cloth, 12/–.

ORCHESTRAL AND BAND INSTRUMENTS. A Short Account of the Instruments used in the Orchestra, and in Brass and Military Bands. By G. F. BROADHEAD, *Mus.B. Dunelm, L.Mus.T.C.L.* With 24 Illustrative Music Examples. Post 8vo, cloth, 5/–.

ORCHESTRAL WIND INSTRUMENTS, Ancient and Modern Being an Account of the Origin and Evolution of Wind Instruments from the Earliest Times. By U. DAUBENY, 11 plates illustrating 61 Instruments or Parts. 8vo, cloth, 25/–.

PRACTICAL GUIDE FOR THE CONDUCTOR and Useful Notes for the Orchestra. By F. W. DE MASSI-HARDMAN. With Music Examples and Diagrams. 3/–.

ORGAN

ART OF ORGAN ACCOMPANIMENT IN THE CHURCH SERVICES. What to Do and what to Avoid: being a Guide to the Organist in the effective rendering of the Music. By WALTER L. TWINNING, *F.R.C.O.* Boards, 3/6.

THE EARLY ENGLISH ORGAN BUILDERS and their Works, from the Fifteenth Century to the Period of the Great Rebellion By DR. E. F. RIMBAULT. Post 8vo, boards, 12/–.

THE INFLUENCE OF THE ORGAN IN HISTORY. By DUDLEY BUCK. Crown 8vo, boards, 4/–; paper covers, 2/–.

INTERNATIONAL REPERTOIRE GUIDE (Historical, Educational and Descriptive) to Foreign, British and American Works. By HERBERT WESTERBY. 4to, cloth, 21/–.

Describes the best Organ Music of foreign countries as well as of Britain and America.

A large and beautifully presented quarto work, fully illustrated by thirty-six plates on fine art paper, comprising seven English and sixteen foreign organs, thirty-one portraits, and illustrations of the houses of Bach and Handel.

LECTURE ON THE PEDAL ORGAN. Its History, Design and Control. By THOMAS CASSON. With folding Diagram. 8vo cloth, 6/–.

MODERN ORGAN BUILDING. By WALTER & THOMAS LEWIS (Organ Builders). Practical Explanation and Description of Organ Construction with especial regard to Pneumatic Action and Chapters on Tuning, Voicing, etc. Third Edition, Revised. 116 Illustrations, including 76 Drawn to Scale and Reproduced from actual Working Drawings. 4to, cloth, 35/–.

MODERN ORGAN TUNING, The How and Why, Clearly Explaining the Nature of the Organ Pipe and the System of Equal Temperament, together with an Historic Record of tho Evolution of the Diatonic Scale from the Greek Tetrachord. By HERMANN SMITH. Crown 8vo, cloth, 10/6.

NEW ORGAN PRINCIPLES AND THEIR INTERPRETATION. A Guide to and Suggestions on Phrasing and Registration with a view to improved Organ Playing. By TERENCE WHITE. With 54 music examples. Demy 8vo, paper covers, 4/–.

THE ORGAN AS VIEWED FROM WITHIN. A Practical Handbook on the Mechanism of the Organ. By JOHN BROADHOUSE. With over fifty Illustrations. Crown 8vo, cloth, 16/–.

THE ORGAN FIFTY YEARS HENCE. A Study of its Development in the Light of its Past History and Present Tendencies. By FRANCIS BURGESS, *F.S.A., Scot.*, 1908. Demy 8vo, 3/6.

ORGAN OF THE ANCIENTS FROM EASTERN SOURCES (Hebrew, Syriac and Arabic). By HENRY GEORGE FARMER, *M.A., Ph.D., Carnegie Research Fellow.* Foreword by CANON F. W. GALPIN. With numerous Illustrations. 8vo, cloth, 35/-.

THE ORGAN, WRITINGS AND OTHER UTTERANCES ON ITS STRUCTURE, HISTORY, PROCURAL, CAPABILITIES, ETC. By F. W. WARMAN. Four Parts (A to Nou, the rest unprinted), royal 8vo, paper covers, 15/-.

The parts advertised above are all that have been published, as the untimely death of Mr. Warman prevented the completion of the work. The book is a mine of information for those keen on organ subjects. The author devoted the best part of his life to compiling the work and collecting material for his subject.

REFORM IN ORGAN BUILDING. By THOMAS CASSON. Demy 8vo, 2/6.

SOME CONTINENTAL ORGANS and their Makers. With Specifications of many of the fine Examples in Germany and Switzerland. By JAMES I. WEDGWOOD. Post 8vo, cloth, 8/6.

TECHNICS OF ORGAN TEACHING. A Handbook which treats of Special Points in Organ Teaching Examinations, together with Test Questions. By R. A. JEVONS. Boards, 3/6.

TECHNICS OF THE ORGAN. An Illuminative Treatise on many Points and Difficulties connected therewith. Special Treatment of Rhythm, Minimisation of the Use of Accessories, Extemporisation, Expressive Regulation of Organ Tone and Accompaniment. By EDWIN EVANS, *F.R.C.O.* With over 100 Music Examples. 4to, cloth, 12/6.

PIANO

THE APPROACH TO LISZT. A Course of Modern Tonal-Technique for the Piano, in the form of Graded Studies from the Moderate to Difficult to the Master Stage. By HERBERT WESTERBY, *Mus.Bac. Lond., F.R.C.O.*, etc. Folio, 5/6.

Preliminary Studies in Touch and Phrasing in all Keys. Based on the Scales and Broken Chords.

Intermediate Studies in Sequential, Wrist and Preparatory Arpeggio Work in the Black and White Key Positions.

Advanced Sequential Studies on the Black Keys, with Sixteen Excerpts from Liszt's Piano Works. The Master Works: Fifty-eight Excerpts from Liszt.

THE ART OF TUNING THE PIANOFORTE. A New Comprehensive Treatise to enable the Musician to Tune his Piano upon the System founded on the Theory of Equal Temperament. By HERMANN SMITH. New Edition, Revised. Crown 8vo, boards, 8/6.

THE ARTIST AT THE PIANO. Essays on the Art of Musical Interpretation. By GEORGE WOODHOUSE. 8vo, cloth, 5/6.

The celebrated pianist, Paderewski, after reading the manuscript of this stimulating volume, wrote: "The booklet is quite a remarkable work and a really valuable contribution to the philosophy of pianistic art."

THE BYRD ORGAN BOOK, for Piano or Organ. A Collection of 21 Pieces (Pavans, Galliards, etc.), by William Byrd, 1543–1623, edited from the Virginal MSS., and now first published in Modern Notation. By M. H GLYN. 7/6.

DELIVERY IN THE ART OF PIANOFORTE PLAYING. On Rhythm, Measure, Phrasing, Tempo. By C. A. EHRENFECHTER. Crown 8vo, cloth, 6/–.

THE DEPPE FINGER EXERCISES for Rapidly Developing an Artistic Touch in Pianoforte Playing, Carefully Arranged, Classified and Explained by AMY FAY (Pupil of Tausig, Kullak, Liszt and Deppe). Folio, English or Continental Fingering. 2/–.

EXTEMPORISING AT THE PIANO MADE EASY. A Manual for Beginners in Musical Composition. Hints and Aids for the "From Brain to Keyboard" Composer. By REV. E. H. MELLING, *F.R.C.O.* 8vo, 2/–.

HOW TO ACCOMPANY AT THE PIANO. By EDWIN EVANS. (Plain Accompaniment, Figurated Accompaniment and Practical Harmony for Accompanists.) 172 Music Examples. Crown 8vo, cloth, 7/6.

HOW TO PLAY 110 FAVOURITE PIANO SOLOS. Being the 4 Series complete in 1 vol. of "Well-Known Piano Solos: How to Play them with Understanding, Expression and Effect." By CHARLES W. WILKINSON. Crown 8vo, cloth, 12/6.

HOW TO STUDY THE PIANOFORTE WORKS OF THE GREAT COMPOSERS. By HERBERT WESTERBY, *Mus.Bac.* Handel, Bach, Haydn, Scarlatti, Mozart, Clementi, C. P. E. Bach, Beethoven. With 123 Musical Examples. Crown 8vo, cloth, 12/6.

The following issued singly, paper covers:
HANDEL, 1/–; D. SCARLATTI, 1/–; J. S. BACH, 1/6; C. P. E. BACH AND HAYDN, 1/–; CLEMENTI, 1/–; MOZART, 1/6.

INDIVIDUALITY IN PIANO TOUCH. By ALGERNON H. LINDO and J. ALFRED JOHNSTONE. Crown 8vo, 2/6.

INTRODUCTION TO RUSSIAN PIANO MUSIC. By HERBERT WESTERBY, *Mus.Bac.Lond.*, *F.R.C.O.*, *L.Mus.T.C.L.*, 1/–.

NATURAL TECHNICS IN PIANO MASTERY. A Complete and authoritative Manual, covering every Phase of Piano Playing and Study—tracing in simple Steps for the Student's Guidance the aesthetic Steps as well as the technical Problems leading from Beginning Stages to Concert Artistry. By JACOB EISENBERG. 55 illustrations. Crown 8vo, cloth, 12/6.

PIANOFORTE TEACHER'S GUIDE. By L. PLAIDY. Translated by F. R. RITTER. Crown 8vo, boards. 3/–; paper, 2/–.

REEVES' VAMPING TUTOR. Art of Extemporaneous Accompaniment, or Playing by Ear on the Pianoforte, Rapidly Enabling anyone having an Ear for Music (with or without any Knowledge of Musical Notation) to Accompany with Equal Facility in any Key. Practical Examples. By FRANCIS TAYLOR. Folio, 2/–.

THE STUDENT'S GUIDE TO THE ART OF TEACHING THE PIANOFORTE. By CYRIL R. H. HORROCKS, *L.R.A.M.*, *L.T.C.L.*, *A.R.C.M.* With an Extensive and Carefully Graded List of Studies and Course of the Great Masters. Numerous Musical Examples. Second edition, Revised. Crown 8vo, cloth, 10/–.

A SYSTEM OF STUDY OF SCALES AND CHORDS. Being Chapters on the Elements of Pianoforte Technique. By B. VINE WESTBROOK, *F.R.C.O.* Numerous Examples. Revised edition. 8vo, 3/–.

TECHNICAL STUDY IN THE ART OF PIANOFORTE PLAYING (Deppe's Principles). By C. A. EHRENFECHTER. With numerous music examples. Fourth Edition. Crown 8vo, cloth, 6/–.

CONTENTS: Position—Arm—Wrist—Fingers; Touch (Tone Production); Legato; Equality of Tone; Tension and Contraction; Five Finger Exercises; Skips; The Scale; Arpeggio Chords; Firm Chords; High Raising of the Arm; Melody and its Accompaniment; Connection of Firm Chords; The Tremolo; The Shake (Trill); The Pedal; Fingering.

TOUCH, PHRASING AND INTERPRETATION. By J. ALFRED JOHNSTONE. Crown 8vo, cloth, 7/6.

TECHNICAL AND THEORETICAL

THE ART OF MODULATING. A Series of Papers on Modulating at the Pianoforte. By HENRY C. BANISTER. With 62 Music Examples. Crown 8vo, cloth, 6/–; paper covers, 3/6.

THE ART OF MODULATION. A Handbook showing at a Glance the Modulations from one Key to any other in the Octave, consisting of 1,008 Modulations. For the Use of Organists and Musical Directors. Edited by CARLI ZOELLER. 4to, paper covers, 5/–.

COMPEND OF MUSICAL KNOWLEDGE. By PERCY BAKER, *F.R.C.O., L.Mus.T.C.L.* Being a Guide with Notes, Hints and Articles on the Study of Examination Questions. Crown 8vo, cloth, 6/–; paper, 3/6.

ELEMENTARY MUSIC. A Book for Beginners. By DR. WESTBROOK. With Questions and Vocal Exercises. Crown 8vo, cloth, 4/–; paper, 2/–.

ESSENTIALS IN MUSIC STUDY FOR EXAMINATIONS. A Helpful Guide both for the General Student and Candidates for Junior and Intermediate Examinations. By REV. E. H. MELLING, *F.R.C.O.* Cloth, 5/–; paper covers, 2/6.

EXAMINATION CANDIDATE'S GUIDE to Scale and Arpeggio Piano Playing (with Tests). All that is required for the Various Exams. By WILSON MANHIRE, *L.R.A.M.* 3/–.

EXAMINATION TEST QUESTIONS. Containing spaces for the Pupils' Written Answers. By WALTER L. TWINNING, *F.R.C.O.* No. 1, Musical Notation and Time; No. 2, Formation of Scales; No. 3, Ornaments; No. 4, Intervals, 9d. each.

EXERCISES IN FIGURED BASS AND MELODY HARMONIZATION. By JAMES LYON, *Mus.Doc.* 4to, 3/6.

EXAMPLES OF FOUR-PART WRITING FROM FIGURED BASSES AND GIVEN MELODIES. By JAMES LYON, *Mus.Doc.* 4to, 5/6.

These exercises are printed in open score so as to be of use in score reading tests. This volume forms a key to "Exercises in Figured Bass" by the same author (see above).

EXERCISES ON GENERAL ELEMENTARY MUSIC. A Book for Beginners. By K. PAIGE. Part I, 1/6; Part II, 2/–.

GUIDE FOR THE YOUNG COMPOSER. Hints on the Art of Composition, with Examples of Easy Application. By REV. E. H. MELLING, *F.R.C.O.* Cloth, 5/–; paper covers, 2/6.

HANDBOOK OF MUSICAL FORM. For Instrumental Players and Vocalists. By E. VAN DER STRAETEN. With Musical Examples, 205 pages. Crown 8vo, cloth, 6/6; paper, 4/–.

THE HARMONISING OF MELODIES. A Textbook for Students and Beginners. By H. C. BANISTER. Third Edition, with numerous Music Examples. Crown 8vo, limp cloth, 5/–.

HARMONY, EASILY AND PROGRESSIVELY ARRANGED. Presenting in a Simple Manner the Elementary Ideas as well as the Introduction to the Study of Harmony. With about 300 Music Examples and Exercises. By PAUL COLBERG. Crown 8vo, cloth 7/6; paper covers, 3/6.

HOW TO COMPOSE WITHIN THE LYRIC FORM. By EDWIN EVANS, *F.R.C.O.* Described for the General Reader, Practically Exemplified for the Musician and Reduced to Precept for the Student. With 60 Music Examples. Crown 8vo, cloth, 6/–.

HOW TO HARMONIZE MELODIES. With Hints on Writing for Strings and Pianoforte Accompaniments. By J. HENRY BRIDGER, *Mus.Bac.* With Music Examples. Crown 8vo, cloth, 6/–.

HOW TO MEMORISE MUSIC. By C. F. KENYON. With numerous Music Examples. Crown 8vo, cloth, 6/–.

HOW TO PLAY FROM SCORE. Treatise on Accompaniment from Score on the Organ or Piano. By F. FETIS. Translated by A. WHITTINGHAM. With forty pages of Examples. Crown 8vo, cloth, 7/6.

This popular and useful book might have been entitled "The Art of Making Arrangements for the Organ or Pianoforte from Full Orchestral and Other Scores." It contains all that is necessary to know upon this subject.

THE MODAL ACCOMPANIMENT OF PLAIN CHANT. A Practical Treatise. By EDWIN EVANS, Senior, *F.R.C.O.* Part I, Theoretical; Part II, Practical School of Plain Chant Accompaniment, consisting of 240 Exercises, with an Appendix of Notes. Crown 8vo, cloth, 12/–.

MODERN CHORDS EXPLAINED. (The Tonal Scale in Harmony.) By ARTHUR G. POTTER. Music Examples from Debussy, Strauss and Bantock. 8vo, cloth, 4/–; paper covers, 2/–.

MUSICAL ACOUSTICS. (Student's Helmholtz), or the Phenomena of Sound as Connected with Music. By JOHN BROADHOUSE. With more than 100 Illustrations. Fifth Impression. Crown 8vo, cloth, 21/–.

MUSICAL ANALYSIS. A Handbook for Students. By H. C. BANISTER. With Music Examples. Crown 8vo, limp cloth, 5/–; paper covers, 2/6.

MUSICAL EXPRESSIONS, PHRASES AND SENTENCES, with their Corresponding Equivalents in French, German and Italian. By F. BERGER. 8vo, cloth, 5/6.

MUSICAL PRONOUNCING DICTIONARY. By DR. DUDLEY BUCK. Eighth Edition, with the Concise Explanation and Pronunciation of each Term. Edited and Revised by A. WHITTINGHAM. Crown 8vo, 1/6.

PRIMARY COURSE IN THE RUDIMENTS OF MUSIC, With Hints on Answering Questions (Written Work) for All Examinations in the Primary, Elementary and Preparatory Grades. By WILSON MANHIRE, *L.R.A.M.*, etc. 2/–.

600 QUESTIONS AND 600 EXERCISES IN ELEMENTARY MUSICAL THEORY. By W. H. PALMER. Crown 8vo, 3/–.

Intended as a help to the private student and to the candidate preparing for the several musical examinations.

THE RUDIMENTS OF GREGORIAN MUSIC. By FRANCIS BURGESS, *F.S.A.*, *Scot.* Crown 8vo, limp cloth, 2/6; paper, 1/6.

RUDIMENTS OF MUSIC, Set forth in Graded QUESTIONS with ANSWERS, for Use of Candidates preparing for the Examinations of R.A.M., R.C.M. and T.C.L. By B. HOWARTH, *L.R.A.M.* and *A.R.C.M.* Crown 8vo, 2/–.

The Answers are always on the right hand page and can be covered over if desired, the Questions being on the corresponding left hand pages.

SCHUMANN'S RULES AND MAXIMS FOR YOUNG MUSICIANS. Sewed, 6d.

STEPS IN HARMONY. With Copious Explanatory Examples and Graded Test Exercises. A Handbook for Students. By DR. CHURCHILL SIBLEY. With Music Examples throughout. Crown 8vo, boards, 6/–.

THE STUDENT'S BOOK OF CHORDS. With an Explanation of their Inversions and Resolutions. By PASCAL NEEDHAM. Crown 8vo, 1/6.

STUDIES IN HISTORICAL FACTS AND MUSICAL FORM. Being a Guide and Note Book for a more Systematic Preparation of the General Knowledge Papers now set at the Universities and Colleges of Music. By PERCY BAKER. Crown 8vo, 3/

STUDIES IN MODULATION for Practical and Theoretical Purposes. By PERCY BAKER, *F.R.C.O.*, etc. 3/-.

102 TEST QUESTIONS ON THE GENERAL RUDIMENTS OF MUSIC. In Groups of Six each Lesson, for Written or Oral Use. By WILSON MANHIRE, *L.R.A.M.* 6d.

THEORY OF MUSIC FOR YOUNG MUSICIANS. With Answers given to all the Questions, and a Dictionary of necessary Musical Terms. By MARY SHARP. 1/6.

TRANSPOSITION AT SIGHT. For Students of the Organ and Pianoforte. By H. E. NICHOL. Fourth Edition, with numerous Musical Exercises. Crown 8vo, 2/–.

The practice of transposing upon the lines here laid down develops the "mental ear," quickens the musical perception and gives ease in sight reading; as it is evident that, if the student can *transpose* at sight, he will not have much difficulty in merely *playing* at sight. Free use is made of the tonic sol-fa as well as the standard notation in many musical examples.

VIOLIN AND STRINGED INSTRUMENTS

ADVICE TO VIOLIN STUDENTS. Containing Information of the Utmost Value to every Violinist. By WALLACE RITCHIE. Crown 8vo, cloth, 7/6; paper, 5/–.

ART OF HOLDING THE VIOLIN AND BOW AS EXEMPLIFIED BY OLE BULL. His Pose and Method proved to be based on true Anatomical Principles. By A. B. CROSBY, *M.D., Professor of Anatomy.* Portrait, Diagrams and Illustrations. 8vo, cloth, 6/–.

ART OF VIOLONCELLO PLAYING. Tutor in Three Books. By E. VAN DER STRAETEN. Text in English and French. 4to. Book I, 3/6; Book II, 4/–; Book III, unpublished.

BIOGRAPHICAL DICTIONARY OF FIDDLERS. Including Performers on the Violoncello and Double Bass. By A. MASON CLARKE. 9 Portraits. Post 8vo, cloth, 25/–.

BOW INSTRUMENTS, their Form and Construction. Practical and Detailed Investigation and Experiments regarding Vibration, Sound Results, and Construction. By J. W. GILTAY. Numerous Diagrams. 8vo, cloth, 16/–.

CHATS WITH VIOLINISTS. By WALLACE RITCHIE. Crown 8vo, cloth, 10/6.

GERMAN VIOLIN MAKERS. By FRIDOLIN HAMMA. A Critical Dictionary of German Violin Makers with a Series of Plates Illustrating Characteristic and Fine Examples of their Work. Translated by Walter Stewart. 64 pages of text and 80 plates in half-tone, 12 × 10 inches, cloth, 105/–.

This book is written by one of the most prominent experts in Europe, this status assuring the importance of his contribution to violin connoisseurship.

About 80 fine German instruments are represented in the plates of this book, the majority by two views, whilst many are extra-illustrated by separate scroll pictures. Good, representative examples of the German masters were selected for the purpose of providing the most informative illustrations, and a short descriptive general treatment accompanies each maker's name in the text. The arrangement of the text is on an alphabetical plan.

Fridolin Hamma's book is one of the most important contributions of our time to violin literature, a work which no connoisseur or maker should miss.

THE HISTORY OF THE VIOLIN and other Instruments Played on with the Bow from the Remotest Times to the Present. Also an Account of the Principal Makers. Coloured Frontispiece and numerous Illustrations and Figures. By W. SANDYS, *F.S.A.*, and S. A. FORSTER. Demy 8vo, cloth, 35/-.

This well-known book, first published in 1864, is especially valuable in connection with the instrument makers of the English school, and is the chief literary source of information concerning our old native craftsmen. It is good to bear in mind that as Simon Forster was a skilled and experienced instrument worker, the technical notes to be discovered in the pages of this book in which he collaborated are worthy of attention.

HOW TO MAKE A VIOLIN. By J. BROADHOUSE. Revised Edition. Folding Plates and many Diagrams, Figures, etc. Crown 8vo, cloth, 10/6.

CONTENTS: Introduction—The Parts of the Violin—On the Selection of Wood—The Tools required—The Models—The Mould—The Side-pieces and Side Linings—The Back—Of the Belly—The Thickness of the Back and Belly—The Bass Bar—The Purfling—The Neck—The Finger-board—The Nut and String Guard—Varnishing and Polishing—Varnishes and Colouring Matter—The Varnish—A Mathematical Method of Constructing the Outline—The Remaining Accessories of the Violin.

HOW TO PLAY THE FIDDLE. For Beginners on the Violin. By H. W. and G. GRESSWELL. Eighth Edition. Crown 8vo, 2 parts, paper covers, 1/6 each.

HOW TO REPAIR VIOLINS and other Musical Instruments. By ALFRED F. COMMON. With Diagrams. Crown 8vo, cloth, 8/6.

AN IMPORTANT LESSON TO PERFORMERS ON THE VIOLIN. By the Celebrated TARTINI. Portrait. Translated by DR. BURNEY, issued originally in 1779, together with the original Italian. 8vo, boards, 6/-.

INFORMATION FOR PLAYERS, Owners, Dealers and Makers of Bow Instruments, also for String Manufacturers. Taken from Personal Experiences, Studies and Observations. By WILLIAM HEPWORTH. Crown 8vo, cloth, 8/6.

MASTERPIECES OF THE ITALIAN VIOLIN MAKERS. By FRIDOLIN HAMMA. With 450 plates illustrating 200 fine Italian violins, 11 x 9 inches, cloth, to be published shortly, £17.

A MUSICAL ZOO. Twenty-four Illustrations displaying the Ornamental Application of Animal Forms to Musical Instruments (Violins, Viol da Gambas, Guitars, Pochette, Serpent, etc.). Drawn from the Carved Examples by HENRY SAINT-GEORGE. Cloth, 6/-; paper, 3/6.

NOTABLE VIOLIN SOLOS: How to Play Them. Three Series (consisting of 44 descriptive Articles in all). By E. VAN DER STRAETEN. 2/6 each series. Also complete in boards, with Portraits, 15/-.

NOTICE OF ANTHONY STRADIVARI. With a Theoretical Analysis of the Bow and Remarks on Tourte. By F. J. FETIS. Demy 8vo, cloth, 21/-.

First published in 1864, this book is of particular value because the facts and ideas contained in it were given to the author by the great violin maker Vuillaume.

OLD VIOLINS AND VIOLIN LORE, Famous Makers of Cremona and Brescia, and of England, France and Germany (with Biographical Dictionary), Famous Players, and Chapters on Varnish, Strings and Bows, with 13 full-page plates. By H. R. HAWEIS. Demy 8vo, cloth, 25/-.

A delightful informal account of famous makers, players and collectors. In matters pertaining to old violins, the author is known as a specialist and, moreover, one who writes in a pleasant flowing style, which cannot be said of all specialists. He discourses about Italian, French and English violins, about varnish, strings, bows, violin dealers, collectors and amateurs. There are some fine plates, a dictionary of violin makers and a bibliography. This book is one for reading, and also for reference, and in its lighter pages for recreation.

PLAYING AT SIGHT FOR VIOLINISTS and Others in an Orchestra. Valuable Hints and Aids for its Mastery. By SYDNEY TWINN. Post 8vo, 3/-.

70 PREPARATORY VIOLIN EXERCISES for Beginners in the First Position, carefully Graduated, Supplementary to the First Instruction Book. By WILSON MANHIRE, *L.R.A.M., A.R.C.M., etc.* 2/6.

ROYSTON'S PROGRESSIVE VIOLIN TUTOR (with Illustrations giving Correct Position for Hand, Wrist and Fingers). Folio, 3/-.

SKETCHES OF GREAT PIANISTS AND GREAT VIOLINISTS. Biographical and Anecdotal, with Account of the Violin and Early Violinists. Viotti, Spohr, Paganini, De Beriot, Ole Bull, Clementi, Moscheles, Schumann (Robert and Clara), Chopin, Thalberg, Gottschalk, Liszt. By G. T. FERRIS. Third Edition. Crown 8vo, cloth, 12/6.

TONAL SCALES AND ARPEGGIOS FOR VIOLIN. Introductory to the Unusual Intonation and Finger-grouping of Advanced Modern Music. By SYDNEY TWINN. Folio, 3/-.

TREATISE ON THE STRUCTURE AND PRESERVATION OF THE VIOLIN and all other Bow Instruments. By JACOB AUGUSTUS OTTO. Together with an Account of the most Celebrated Makers and of the Genuine Characteristics of their Instruments. Translated by JOHN BISHOP. Fourth Edition. Crown 8vo, cloth, 12/6.

VIOLIN AND CELLO BUILDING AND REPAIRING. By ROBERT ALTON. With 82 diagrams and 2 plates. Crown 8vo, cloth, 16/-.

Robert Alton gave forty years to the study of the violin and its construction and was in close touch with makers, both amateur and professional, all over the world. He invented several tools by reason of actual experience at the bench, and has proved that they are entirely satisfactory for the work required of them. He has carried out innumerable repairs to violins, bows and cellos, and is entirely practical.

THE VIOLIN AND OLD VIOLIN MAKERS. Being a Historical and Biographical Account of the Violin. By A. MASON CLARKE. With Facsimile of Labels used by Old Masters. Crown 8vo, cloth, 10/–.

THE VIOLIN HUNTER. The Life Story of Luigi Tarisio, the Great Collector of Violins. By W. A. SILVERMAN. Demy 8vo, cloth, 30/-.

Luigi Tarisio had a fascinating career in the early 19th century discovering Cremona violins in Italy where they had lain forgotten and gathering dust for years, and bringing them to the dealers and collectors of Paris and London. In this book on violin romance and history, the author tells Luigi Tarisio's life story for the first time.

VIOLIN MANUFACTURE IN ITALY and its German Origin. By DR. E. SCHEBEK. Translated by W. E. LAWSON. Second Edition. Square 12 mo, cloth, 6/–; paper, 3/6.

VIOLIN TECHNICS, or How to Become a Violinist. Exact Instructions, Step by Step, for its Accomplishment with or without a Teacher. By "FIRST VIOLIN." 3/–.

VIOLINIST'S ENCYCLOPÆDIC DICTIONARY. Containing the Explanation of about 4,000 Words, Phrases, Signs, References, etc., Foreign, as well as English, used in the Study of the Violin, and also by String Players generally, by F. B. EMERY, *M.A.* New and enlarged edition. 246 pp., crown 8vo. Cloth, 15/–; or printed on India paper, suitable for student or travel, 15/–.

WELL-KNOWN VIOLONCELLO SOLOS. How to Play Them. Three Series. By E. VAN DER STRAETEN. 2/6 each series. Also complete in cloth, with Portraits, 15/–.

VOCAL

THE AMATEUR VOCALIST. A Guide to Singing. With Useful Hints on Voice Production, Song Preparation, etc. By WALTER L. TWINNING, *F.R.C.O.* Post 8vo, limp cloth, 2/–.

THE ART OF VOCAL EXPRESSION. A Popular Handbook for Speakers, Singers, Teachers and Elocutionists. By the REV. CHAS. GIB. Crown 8vo, cloth, 5/–; paper, 2/6.

THE CENTRAL POINT IN BEAUTIFUL VOICE PRODUCTION. By H. TRAVERS ADAMS, *M.A.* 2/6.

ELEMENTARY LESSONS ON SIGHT SINGING. Combining the Staff and Tonic Sol-fa Notations. With Music Examples throughout. By J. W. ROSSINGTON, *L.R.A.M.* Cloth, 3/6; paper, 2/–.

HOW TO ATTAIN THE SINGING VOICE, or Singing Shorn of its Mysteries. A Popular Handbook for those desirous of winning Success as Singers. By A. RICHARDS BROAD. Crown 8vo, boards, 6/–.

HOW TO SING AN ENGLISH BALLAD. By E. PHILP. Eighth Edition. Crown 8vo, paper, 1/–.

HOW TO TEACH CLASS SINGING, and a Course of Outline Lessons which illustrate the psychological principles upon which successful tuition is based. By GRANVILLE HUMPHREYS, Professor of the Art of Teaching, Voice Production, etc., at the T.S.-F.C.; late Lecturer in Class Singing at the Training School for Music Teachers. Numerous Music Illustrations. Cloth, 10/–.

OBSERVATIONS ON THE FLORID SONG. Or Sentiments on the Ancient and Modern Singers. By P. F. TOSI. Translated by Mr. Galliard. With folding Music Examples. 184 pages. A Reprint of this Celebrated Book, first published in 1743. Crown 8vo, boards, with vellum-like back. 21/–.

SIMPLICITY AND NATURALNESS IN VOICE PRODUCTION. A Plea and an Argument. By EDWIN WAREHAM. Crown 8vo, cloth, 2/6.

SPEECH DISTINCT AND PLEASING, or Why not Learn to Speak Correctly? A clear description of the mental and physical qualities on which the art of good speaking is founded. By FRANK PHILIP. 162 pages, Crown 8vo, cloth, 7/–; paper covers, 4/–.

SUCCESS IN AMATEUR OPERA. Instructions on Auditions, Equipment of the Society and the Conductor, Allocation of Roles, Rehearsals, Training of Soloists, Diction, Conducting, etc. By HUBERT BROWN. Including a Section on Stage Management, by H G. TOY. Crown 8vo, cloth, 6/–.

TEXTBOOK OF VOCAL TRAINING AND PREPARATION FOR SONG INTERPRETATION. With a Section showing how to Determine Accurately by Pitch and Curve Graphs the special Suitability of Songs selected for particular Vocal Requirements. Music Illustrations and Descriptive Diagrams. By FRANK PHILIP. 8vo, cloth, 15/–.

THE THROAT IN ITS RELATION TO SINGING. By WHITFIELD WARD, *A.M.*, *M.D.* Illustrations. Crown 8vo, cloth, 5/–.

TREATISE ON THE TRAINING OF BOYS' VOICES. With Examples and Exercises and Chapters on Choir-Organization. Compiled for the Use of Choirmasters. By GEORGE T. FLEMING. Crown 8vo. cloth, 5/–; paper, 2/6.

TWELVE LESSONS ON BREATHING AND BREATH CONTROL for Singers, Speakers and Teachers. By GEORGE E. THORP. Crown 8vo, paper covers, 3/–.

TWENTY LESSONS ON THE DEVELOPMENT OF THE VOICE. For Singers, Speakers and Teachers. By G. E. THORP. Crown 8vo, limp cloth, 2/6.

THE VOICE AND SINGING. Practically Explained, Condensed but Comprehensive Treatise, designed principally for Students and Amateurs, by an Experienced Singer and Teacher (C. W. PALMER). Cloth, 5/–; paper, 2/6.

VOCAL SCIENCE AND ART. Hints on Production of Musical Tone. By REV. CHAS. GIB. The Boy's Voice, Muscular Relaxation, Art of Deep Breathing, Elocution for Ordination Candidates. Crown 8vo. cloth, 6/–.

VOCAL SUCCESS, or Thinking and Feeling in Speech and Song, including a Chapter on Ideal Breathing for Health. By the REV. CHAS. GIB. Crown 8vo, cloth, 5/–; paper covers, 2/6.

VOICE PRODUCTION FOR ELOCUTION AND SINGING. By REV. E. H. MELLING. Music Examples. 31 pages, f'cap 8vo, cloth, 4/–; paper covers, 2/–.

WILLIAM REEVES
Bookseller Ltd

SPECIALISTS IN MUSIC
AND BOOKS ON MUSIC

In addition to our valuable series of publications listed in this Catalogue, we hold an extensive stock of secondhand and out-of-print books on music, especially on the Violin, Organ, and other Musical Instruments, Lives of Composers and Criticisms of their Works, National, Oriental and Primitive Music, Orchestration, Composition, and Technique, etc., Orchestral Scores, Operas, Chamber Music, Miniature Scores, Librettos, Facsimiles of Composers' MSS, Orchestral Material, Musical Comedies, etc.

Librarians and Amateurs are invited to send us their lists of wants, as we may have in stock just the items required.

Catalogues regularly issued, and sent on request, post free.

WILLIAM REEVES BOOKSELLER LTD.
1a Norbury Crescent, London, S.W.16

Printed in Great Britain by
Lowe and Brydone (Printers) Limited, London, N.W.10